Version 2.2.6

User Manual

For use with the

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ModMax is © Maxon Australia

Welcome to T-Link

Texcel Monitor Management

This manual will show you how to:

- Set up your Monitor
- Configure your Monitor
- Prepare and use Custom Settings
- Retrieve the data gathered using the monitor
- Generate reports to view the retrieved data
- Setup and Connect to Monitors Remotely

The following instructions are common to all **GTM, ETM** and **ETM PI** Texcel monitor models, unless stated otherwise.

Installing T-Link and Texcel T-Suite

Administrator privileges are required to install Texcel T-Suite and T-Link on most modern Windows systems.

- ☞ **This process installs T-Link, T-Sched, T-SiteExplorer, their manuals, and the Texcel T-Suite Access Window.**

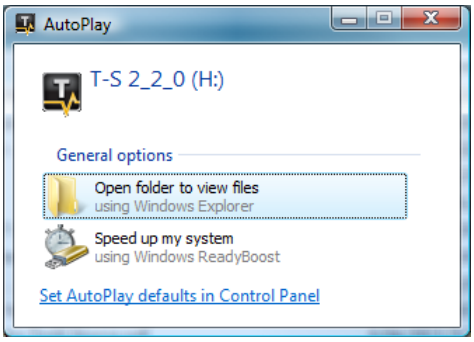
Installing from a CD

The CD should run Setup automatically when you put it into a CD drive. If it doesn't start, open Explorer and browse to the CD drive, then run *Setup.exe*.

Installing from a USB Stick/Thumb Drive

When you put the USB Stick into your PC, Windows will open an AutoRun Menu something like this:

Figure 1: USB Stick Install AutoRun Manu



Select the option to *Open folder to view files*. Locate and run *Setup.exe*.

The install process is very simple, with no options other than install location, and should only take a few minutes unless a .Net update is required.
See T-Link Minimum System Requirements below.

Upgrading from an older T-Link

Texcel T- Suite will upgrade your existing T-Link installation, and continue to use your existing data.

- ☞ **If you have a previous version of T-Sched or T-SiteExplorer installed, please uninstall these first!**

T-Sched and/or T-SiteExplorer will not be upgraded, and you will have two versions on your PC, which will cause confusion, and may cause data problems down the track.

If you uninstall T-Sched or T-SiteExplorer after installing Texcel T- Suite, your new applications may fail to start with a confusing error message about CLSID and COM Factory. ***A Repair Install will fix this, and no data will be lost!***

USB Serial Adaptor Driver Installation

If you are going to use a USB Serial Adaptor to connect to your Texcel Monitor, make sure you install the supplied drivers at the same time.

- ☞ **Confirm all your software is installed properly by connecting to your monitor**

Texcel USB Monitors Driver Installation

- ☞ **You do not need to install drivers before connecting your monitor**

When you first connect the Texcel USB Monitor to your PC, Windows will run the New Hardware Wizard, and normally it will go to the Windows Update web site and find the correct drivers.

- ☞ **This normally takes quite a while – some minutes!**
- ☞ **The New Hardware Wizard will run twice, one straight after the other!**

If you have no web access, or the update process fails, follow the instructions below:

1. Disconnect the Texcel USB Monitor from the PC
2. Re-connect the Texcel USB Monitor and let Windows run the Found New Hardware Wizard
3. When asked to Insert the disc that came with your device, Insert the T-Link CD and press Next
4. That should end at a screen that says “successfully installed” for “USB Hub” or “USB Serial Converter”
5. The Wizard will automatically run again!
6. Repeat step 3
7. That should end at a screen that says “successfully installed” for the “USB COM Port”

You are done.

- ☞ **If you are using a USB Stick Install:**

At Step 3 above, select *Install from a specific location*, and when prompted browse to the *CDM 2.08.24 WHQL Certified* folder on the USB Stick.

Step by step instructions for your type of Windows can be found here:
http://www.ftdichip.com/Support/Documents/InstallGuides.htm

Repair a T-Link Installation

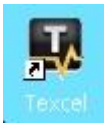
If you experience error messages that do not repair upon re-starting, you may need to repair the T-Link installation. This can be done by re-running the installation as given above – i.e., if you re-run Setup.exe in the same way, it will offer a repair option. ***Please note, this will not affect your existing data, and will repair any corruption of T-Links system files.***

If you are going to use a USB Serial Adaptor to connect to your Texcel Monitor, make sure you install the supplied drivers at the same time.

Texcel T- Suite Installs ONLY One Desktop Shortcut

Texcel 2.2 introduces the Texcel T- Suite Access, and installs only one shortcut on your desktop.

Figure 2 Texcel T-Suite Desktop Shortcut



Clicking this shortcut will run the T-Suite Access Main Window:
See Figure 3 Texcel T-Suite Access Window

The Programs Menu has Shortcuts for all installed Applications

- T-Link
- T-Options
- T-Sched
- T-SiteExplorer
- T-Suite

T-Link Minimum System Requirements

Type	Minimum	Recommended
Generic Type:	x86 Windows Compatible PC 1 GHz processor, CD reader.	1 GHz or above
Operating System:	Windows XP (requires SP3), Vista (SP1 or later) or Windows 7. .Net 4.0 Client required*	XP SP3, Vista SP2 or Windows 7 .Net 4.0 Client Required*
Hard Disk Space:	Approximately 35 MB.	100 MB
Communications:	RS232 DB9 (9 pin plug) serial port, or USB port and serial adapter cable.	
RAM:	512 MB.	512 MB or above
Screen Resolution:	800 x 600 pixels 256 colours	1024 x 768 or higher High Colour (16-bit)

***Note:** T-Link runs on a platform that requires .Net 4.0 Client to be installed. The .Net 4.0 Client needs 600 MB on 32-bit system and 1.5GB on 64-bit.

Note: .Net 4 Client also requires Microsoft Internet Explorer 6.0 or later to be installed on the PC.

If .Net 4.0 and Windows Installer 4.5 installation is required

The T-Link install CD contains a copy of .Net 4.0 and Windows Installer 4.5, both of which will automatically be installed if required.

- ☞ **If your Windows is Updated regularly this will not be needed**

The install process will run a separate install for each of .Net 4.0 and Windows Installer 4.5.

You will probably be required to reboot during this process.

Introducing Texcel T-Suite Access Window

Figure 3 Texcel T-Suite Access Window

The buttons on this window provide access to all of the T-Suite software and manual resources.

LINK	Runs T-Link	T-LINK MANUAL	Opens the T-Link Manual as a PDF
SCHED	Runs T-Sched	T-SCHED MANUAL	Opens the T-Sched Manual as a PDF
SITE	Runs T-SiteExplorer	T-SITE MANUAL	Opens the T-SiteExplorer Manual as a PDF
OPTIONS	Run's T-Options	TECHNICAL BULLETINS	Access a range of Technical Support Information
WEBSITE	Opens the Texcel website in your browser	FAQ's	Access the Texcel FAQ website in your browser
CLOSE	Closes this Window		

☞ **This application uses your existing Web Browser and PDF Viewer applications. An error message if they are not configured.**

Texcel Address Block

The right had side of this window shows Texcel Contact Information:

Figure 4 Texcel Contact Information

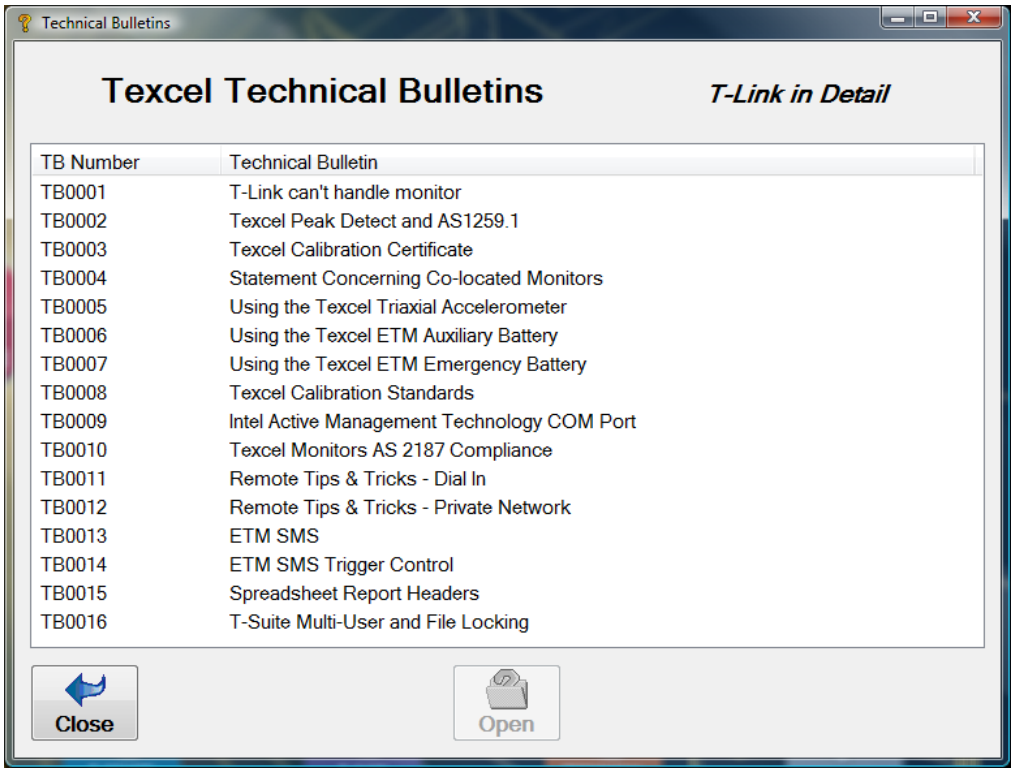
Clicking on the email address will open your email application to email team@texcel.com.au

Accessing the Technical Bulletins

Clicking

will show this window:

Figure 5 Texcel Technical Bulletins


Technical Bulletins
Texcel Technical Bulletins
T-Link in Detail
TB Number
Technical Bulletin
TB0001 T-Link can't handle monitor
TB0002 Texcel Peak Detect and AS1259.1
TB0003 Texcel Calibration Certificate
TB0004 Statement Concerning Co-located Monitors
TB0005 Using the Texcel Triaxial Accelerometer
TB0006 Using the Texcel ETM Auxiliary Battery
TB0007 Using the Texcel ETM Emergency Battery
TB0008 Texcel Calibration Standards
TB0009 Intel Active Management Technology COM Port
TB0010 Texcel Monitors AS 2187 Compliance
TB0011 Remote Tips & Tricks - Dial In
TB0012 Remote Tips & Tricks - Private Network
TB0013 ETM SMS
TB0014 ETM SMS Trigger Control
TB0015 Spreadsheet Report Headers
TB0016 T-Suite Multi-User and File Locking
Close
Open

Select a Technical Bulletin and click the Open Button, or double click a row to open the selected Technical Bulletin as a PDF.

The First Time Your Open the Texcel T-Suite Access Window

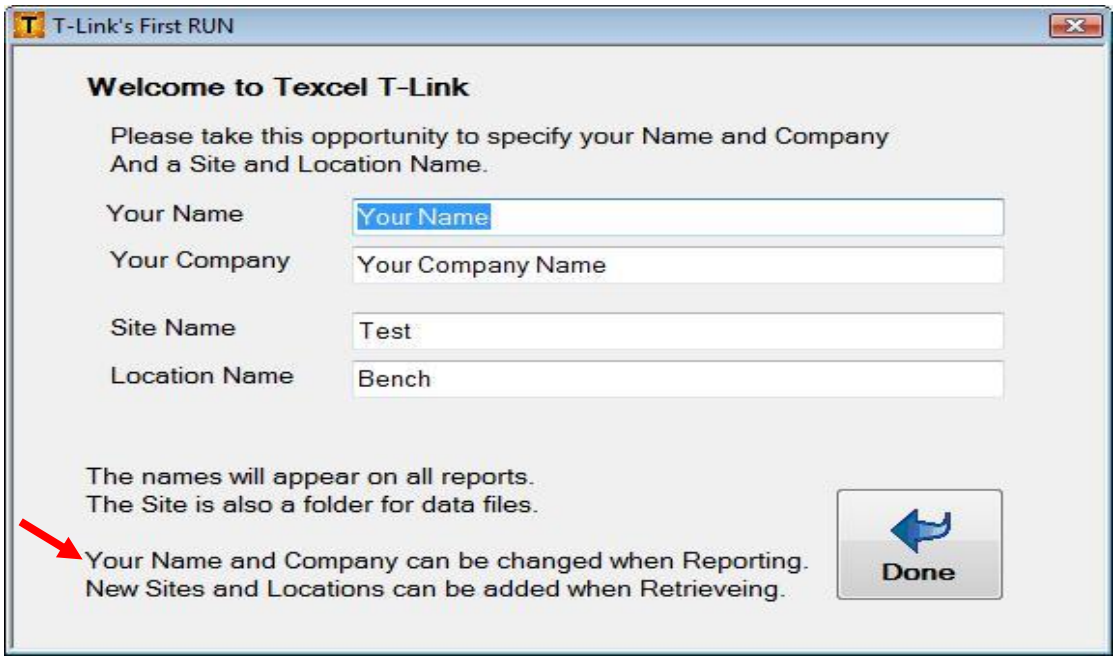
Only the T-Link Application will be enabled, unless this is an upgrade installation.

- ☞ **You must run T-Link before you can run the other Applications**
- ☞ **All Manuals and Technical information access will always be available**

The First Time you Run T-Link

The first time you run T-Link after a new installation, you will be prompted to enter your name and define a site and location.

Figure 6: T-Link's First Run


T-Link's First RUN
Welcome to Texcel T-Link
Please take this opportunity to specify your Name and Company
And a Site and Location Name.
Your Name
Your Name
Your Company
Your Company Name
Site Name
Test
Location Name
Bench
The names will appear on all reports.
The Site is also a folder for data files.
Your Name and Company can be changed when Reporting.
New Sites and Locations can be added when Retrieveing.
Done

It is recommended to type your name and company name correctly at this stage. The 'Test Bench' site and location is a good default for testing your monitor, unless you already know the site and location names you need.

Note: You can change these values later as explained at the red arrow in Figure 6

Note: If you uninstall and reinstall your T-Link, this window will be skipped, because your options and site folders are saved during an uninstall.

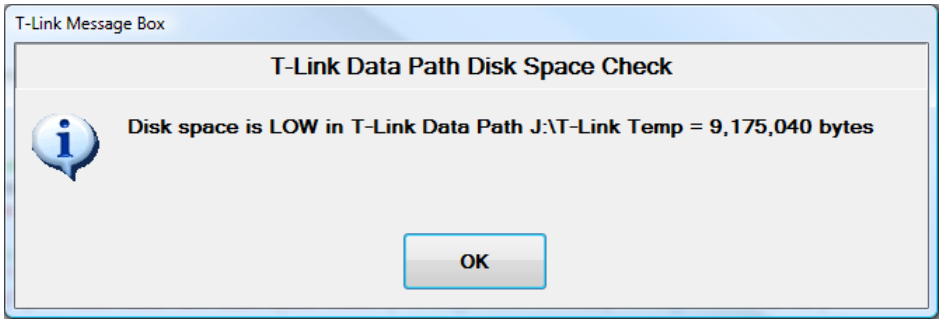
T-Link Startup runs a Disk Space Check

When T-Link starts up, it checks the available disk space on your ***T-Link Data Path***.
See How T-Link's Data is stored on your Computer below.

Disk Space Low Warning at 10 MB

If the available disk space in your T-Link Data Path is less than 10 MB (10,485,760 bytes), a warning message is displayed:

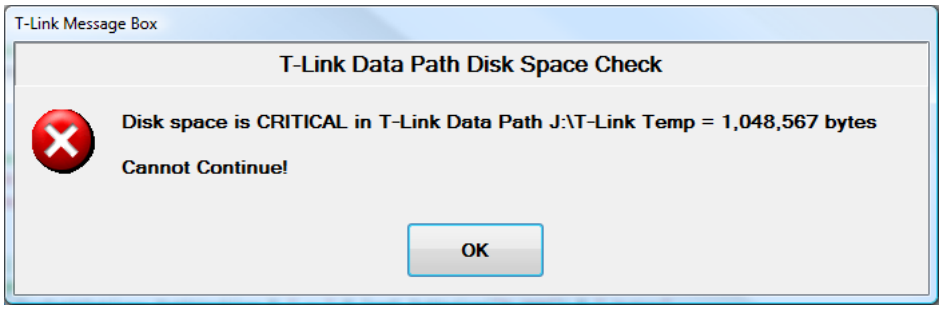
Figure 7: T-Link Data Path Disk Space Low Warning



Disk Space CRITICAL at 1 MB

If the available disk space in your T-Link Data Path is less than 1 MB (1,048,576 bytes), a warning message is displayed, and T-Link will not start up.

Figure 8: T-Link Data Path Disk Space CRITICAL Warning


T-Link Message Box
T-Link Data Path Disk Space Check
Disk space is CRITICAL in T-Link Data Path J:\T-Link Temp = 1,048,567 bytes
Cannot Continue!
OK

☞ **You must make more space available on the disk before T-Link will start up**

Using your Monitor

Items in Monitor Kit

ETM – PI:

ETM Monitor in IP65 rated weatherproof pole-mounted enclosure and pole
- 4 channel monitor with 16 MB memory
- Mains Charger
- RS232 Serial Communications cable and USB Adapter
- T-Link software CD includes User Manual

Triaxial Geophone (4.5 Hz to 500 Hz)
- Base-plate and cable

Microphone (2 Hz - 500 Hz) and cable
- Weatherproof Enclosure

Solar Panel (10 W) with stand and cable

Options Available

Weather Station to link to above monitor

ETM:

ETM Monitor in IP67 rated weatherproof carry case
- 4 channel monitor with 16 MB memory
- Mains Charger
- RS232 Serial Communications cable and USB Adapter
- T-Link software CD includes user manual

Triaxial Geophone (4.5 Hz to 500 Hz)
- Base-plate, soil spikes and 2 m cable

Microphone (2 Hz - 500 Hz) with 1.5 m cable
- Windsock, tripod & mounting clip

Options available

Modem (excludes SIM card) with antenna
Solar Panel (10 W) with stand and cable
Alarm Light - Flashing xenon alarm beacon with 15 m cable
External 12 V Battery Cable - 2 m
Auxiliary Battery – Cable and connection for additional 12 V battery

GTM:

GTM Monitor in IP67 rated weatherproof case
- 4 channel monitor with 8 MB memory
- Equipment backpack
- Tripod mounts GTM
- Mains Charger
- RS232 Serial Communications cable and USB Adapter
- T-Link software CD includes user manual

Triaxial Geophone (4.5 Hz to 500 Hz)
Base-plate, soil spikes and 2 m cable
Microphone (2 Hz - 500 Hz)
Windsock

Optional Items for all monitors:

Triaxial Accelerometer – (1 Hz to 500 Hz) enables VDV
14 Hz Triaxial Geophone in Land Case with 2 m cable
Splitter Box – Banana Terminals for single element geophones e.g. 28 Hz
Current Source Splitter Box – BNC Connectors for single element accelerometers

We recommend that the monitor be charged overnight before being put in field for the first time.

1. Do NOT leave the monitor on charge all the time
2. Top-up charge the night before monitoring and/or every 3 months
3. Check configuration prior to monitoring

Monitor Set Up

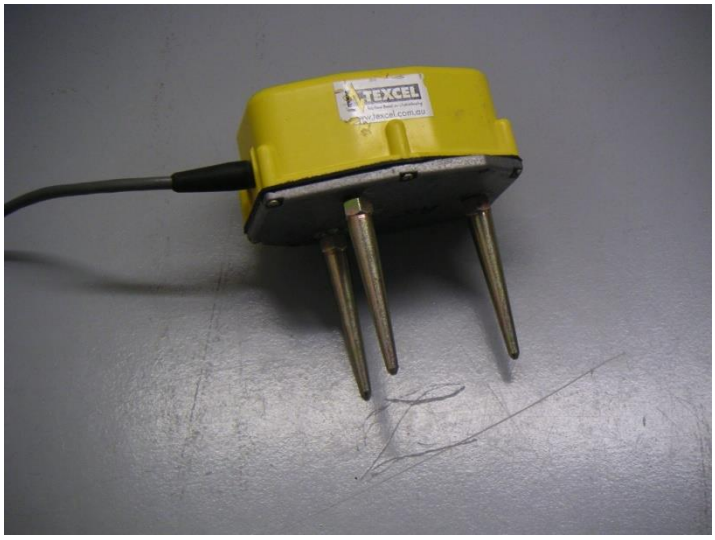
The Triaxial Land Case:

Figure 9 shows the triaxial Land Case, which contains the 4.5 Hz geophone elements. This device is used to measure vibration as velocity (mm/s).

Figure 9: Triaxial geophone Land Case with base plate

We supply, as standard, the base plate (seen in Figure 9) for use on hard surfaces (concrete and rock), and three soil spikes (seen in Figure 10) for use in normal soil or similar conditions.

Figure 10: Triaxial geophone Land Case with soil spikes attached



Necessary measures when siting a Triax:

To ensure that you get consistent measurements, we suggest the following methods to couple the triax to a surface:

- **It is essential that the land case is level and that the red arrow is pointing at the vibration source being monitored. To ensure the Land Case is level, the bubble in the circular spirit level embedded in the top of the land case must be within the inner marked circle (see Figure 11 below);**

Figure 11: Land Case level

When using the baseplate, apply a fast curing adheasive (non elastic is preferable) on the baseplate bottom (Figure 12) and then set level on the desired surface (Figure 6):

Figure 12: Adhesive on baseplate bottom

Figure 13: Triax & baseplate glued to concrete

When retrieving the triax Land Case, first remove the baseplate, then, using a flat tip screw driver or similar tool, pry the baseplate off the surface.

When using soil spikes, use constant pressure to push the spikes in until the bottom of the Land Case is in firm contact with the ground and level (as shown by the level bubble) – see Figure 14 below:

Figure 14: Triax Land Case with soil spikes being pushed into the ground

The microphone:

In Figure 15 the microphone and hydrophobic windsock (or screen) are shown. The microphone is used mainly to monitor blast overpressure in dBL. This function is available on all models.

Figure 15: Microphone and windsock

The microphone set up depends upon the type of monitor purchased.

☞ **The microphone is very fragile and can be damaged if not handled with care.**

GTM microphone set up:

The GTM comes with the microphone, the hydrophobic windsock and the travel pouch, as shown in Figure 16 below:

Figure 16: Microphone (left), windsock (middle) and travel pouch (right)

Remove microphone from the travel pouch and attach to the connector shown in Figure 17. Place the windsock over the microphone - **Error! Reference source not found.**.

Figure 17: Microphone connector on GTM

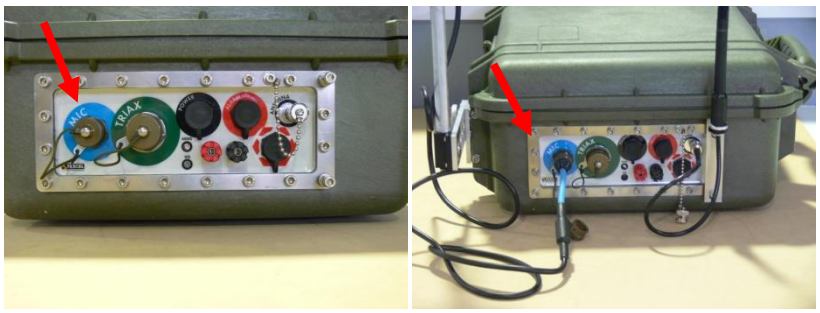
Now place monitor on to the tripod provided to elevate the microphone to the correct height above the ground.

ETM microphone set up:

The ETM comes with the microphone, a cable, hydrophobic windsock, and tripod.

Figure 18 shows where to connect the microphone cable (indicated by the red arrows):

Figure 18: Microphone connection on connector panel.



Calibration

Texcel recommends annual calibration in accordance with AS2187.2 – 2006 – Clause J3.1.2(b).

Texcel's calibration process is traceable and documented.

Sensor Calibration

Sensor calibration is calibration by comparison with a reference transducer.
Our reference sensors are calibrated by the Australian Government's National Measurement Institute, at a Laboratory accredited to NATA requirements, which include the requirements of ISO/IEC 17025 and are traceable to Australian standards of measurement.

Electronic Circuit calibration

Electronic Circuit calibration is achieved by using a calibrated multimeters or equivalent measuring instruments.
Our multimeters are calibrated at a laboratory accredited by NATA in accordance with ISO/IEC 17025, or an international test facility traceable to the Australian Government's National Measurement Institute, or other national metrology institutes.

Returning the Monitor for Calibration

When returning the monitor for calibration, include the following:

- The monitor – ETM, ETM PI or GTM
- The triaxial geophone sensor - Land Case
- The microphone if purchased
- The charger
- Sensor cables, unless they are fixed in the PI poles

Calibration Includes:

When a monitor is returned to Texcel for calibration, the following work is carried out:

1. Monitor and sensors calibrated;
2. All equipment in kit thoroughly tested;
3. Firmware version upgraded (if required);
4. Software version upgraded (if required).

Warranty

Warranty on initial purchases

Warranty

Texcel Pty Ltd warrants the Goods for a period of 12 months.

Exclusions

The warranty on Texcel monitors and accessories shall not apply to defects resulting from the following:

- Abnormal Use by the customer including damage to the monitor, microphone, geophone, modem or any other accessory by Abnormal Use;
- improper or inadequate maintenance by the customer;
- unauthorised modification, including mechanical damage to the microphone, modem or other accessory;
- internal corrosion due to condensation or water ingress.

Please note:

1. The benefits provided to the Customer by this Warranty are in addition to the other rights and remedies of the Customer under the Australian Consumer Law.
2. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are entitled to the goods repaired or replaced if the goods fail to be of an acceptable quality and the failure does not amount to a major failure.
3. **Abnormal Use** includes use of the Goods in a manner for which they were not designed or a failure by the owner to ensure that the Goods are appropriately serviced, maintained and cared for.
4. **Goods** mean the Texcel monitoring system and attachments.

Warranty on Calibration Services

Warranty

Our services come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are entitled to have the services provided again (without charge) if they are not of an acceptable quality and the failure does not amount to a major failure.
The benefits provided to the Customer by this Warranty are in addition to the other rights and remedies of the Customer under the Australian Consumer Law.

Exclusions

Any warranty that Texcel Pty Ltd is required to provide at law for its calibration services does not cover damage or defect resulting from:

- Abnormal Use by the customer including damage to the monitor, microphones, geophones, modem or any other external accessory resulting from Abnormal Use;
- unauthorised modifications, repairs or servicing of the Goods;
- internal corrosion due to condensation or water ingress into the Goods;
- the failure of any component of the monitor that was not replaced or serviced during the Calibration Service and is no longer covered under the original purchase warranty ; and
- the failure of any accessory product, such as the modem or microphone, that was not manufactured by Texcel.

Please note:

1. **Warning:** User-generated data which has been saved to this monitor may be lost as a result of the work performed during the calibration service or any other repair or maintenance. Customers are encouraged to save their data before the work is performed. Texcel will not be responsible for any data that is lost as a result of the works.
2. **Abnormal Use** includes use of the Goods in a manner for which they were not designed or a failure by the owner to ensure that the Goods are appropriately serviced, maintained and cared for.
3. **Goods** mean the Texcel monitoring system and attachments.

Declaration of Conformity

C-Tick

C-Tick indicates compliance with EMC requirements of Australia and New Zealand.

Test Standards: EN55011:2007 + A2:2007

Tested in accordance with the Group 1 Class A requirements of EN 55011

CE Declaration of Conformity

Texcel Pty Ltd declares that the ETM meets requirements of EMC Directive 2004/108/EC for Electromagnetic Compatibility and Low Voltage Directive 2006/95/EC for Product Safety.

EMC DIRECTIVE

- EN 61326–1:2006
- EMC requirements for Electrical Equipment for Measurement, Control, and Laboratory use.

Electromagnetic Emissions

- EN 55011/A2:2002 Radiated and Conducted emissions (Class A)
- EN 61000–3–2:2000 Harmonic Emissions (Class A)
- EN 61000–3–3/A1:2001 Voltage Fluctuations and Flicker Emissions

Electromagnetic Immunity

- EN 61000–4–2/A2:2001 Electrostatic Discharge
- EN 61000–4–3:2002 Radiated Susceptibility
- EN 61000–4–4:2004 Burst
- EN 61000–4–5/A1:2001 Surges
- EN 61000–4–6/A1:2001 Conducted Susceptibility
- EN 61000–4–8/A1:2001 Power Frequency Magnetic Field
- EN 61000–4–11:2004 Voltage Dips and Short Interruptions

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Disclaimers

Conformity with the standards for Electromagnetic Immunity does not guarantee the equipment will be immune to electromagnetic interference of all kinds.
Change or modification without the express consent of Texcel Pty Ltd voids the user's authority to use the equipment.
The use of this equipment with any third party equipment may void the above compliance declarations.

GTM, ETM and ETM PI specifications and manuals are subject to change without notice. Texcel Pty Ltd assumes no liability for damage incurred directly or indirectly from errors, omissions or discrepancies between the GTM, ETM and ETM PI and its respective manual.

Contact Texcel for further information.

Connecting to your Monitor

All Texcel Monitors are delivered with cables to connect the communications port on the monitor to your PC or laptop:

A standard DB9 Serial Cable

You will always need the standard serial cable to connect your monitor.

Figure 19: Supplied DB9 Serial Cable

A USB to Serial Adapter – and Driver Software

If your PC or laptop does not have an available COM Port, and it does have a USB port, you will need to us the supplied USB to Serial adapter.

Figure 20: USB to Serial Adapter

☞ **Install the driver software BEFORE you use the USB to Serial Adapter.**

Install the Supplied Driver Software BEFORE Connecting the Adapter

It is important to install the supplied driver software without the Serial Adapter plugged into your PC.
That way, when you plug the adapter in, the Found New Hardware Process in Windows will allocate the correct driver, and it will work easily!

Connecting the Monitor to the PC

Connect the DB9 Serial cable to the matching connector on your ETM or GTM.
The connector on the front panel of your ETM or GTM is labelled PC.

If The PC has a DB9 COM Port Connector

If your PC, or laptop, has a standard DB9 COM port, the other end of the DB9 Serial Cable will connect to it, and that is all you need do. This connector will be a DB9 male connector like this:

Figure 21: DB9 COM Port Connector on PC or Laptop

If The PC or Laptop has no DB9 COM Port

In this case, you will need to use the USB to Serial Adaptor connected to a standard USB Type A Port on your laptop or PC:

Figure 22: USB Type A Port

These ports are usually identified by the USB Trident Logo:

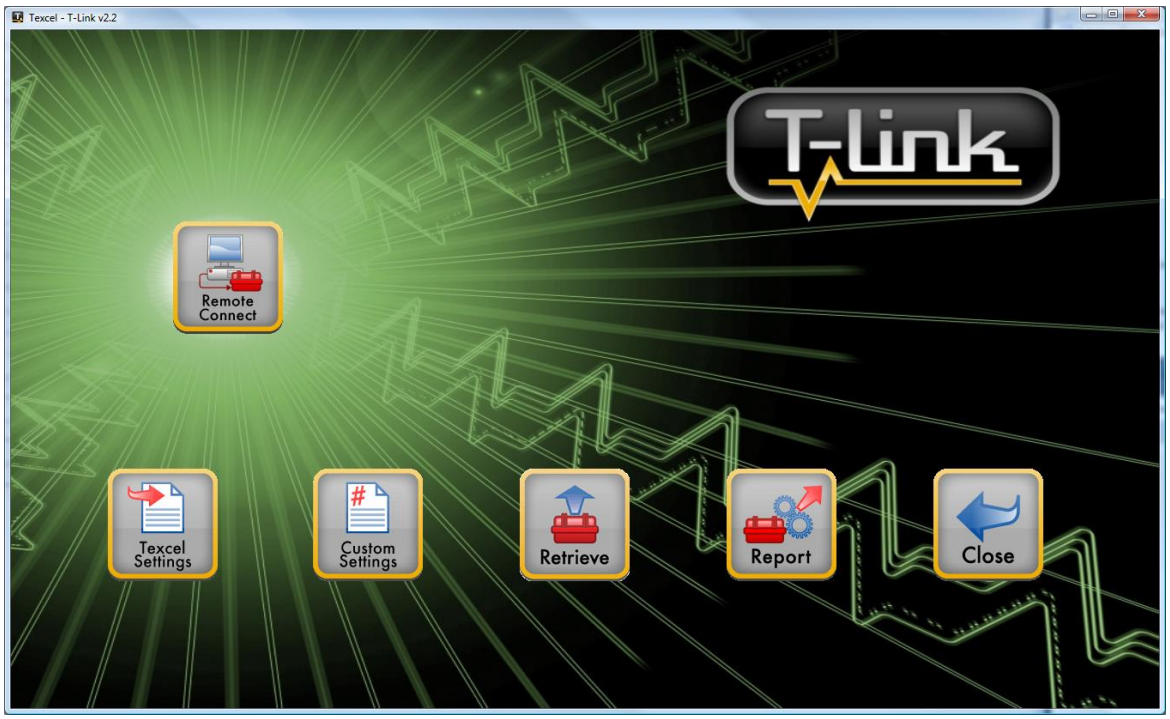
The DB9 Serial cable connects to the other end of the USB Serial Adapter.

Connect from the T-Link Software

Once your ETM or GTM monitor is physically connected to your PC or laptop, try connecting from the T-Link software.

☞ **Ensure the monitor is switched on**

Figure 23: T-Link Main Window



T-Link runs a connection process when you configure the settings or retrieve data. These are accessed from any of the three buttons at the bottom left of the T-Link Main Window:

- Texcel Settings
- Custom Settings
- Retrieve

They each run the same connection process.

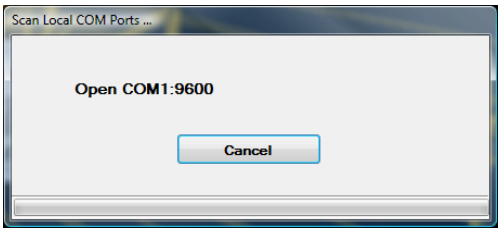
☞ **You will not affect the settings or data in your monitor by pressing any of these buttons! You will need to confirm any changes!**

The T-Link 2 Connection Process

You may notice that T-Link scans the available COM Ports whenever it starts up.

When you press one of the 'connect buttons' above, T-Link displays a 'Communications Status' window, to show you the progress of the connection:

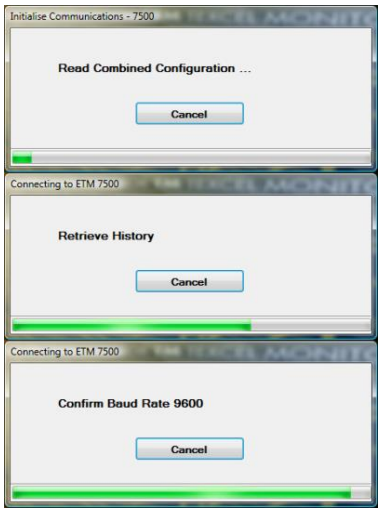
Figure 24: Connection Status Window



T-Link opens all the usable COM ports in turn, and checks to see if a monitor is connected to that COM Port.

In a normal connection, the heading shows the monitor serial number found, and a number of messages will flash past. Progress will be indicated:

Figure 25: Connection Process Progress

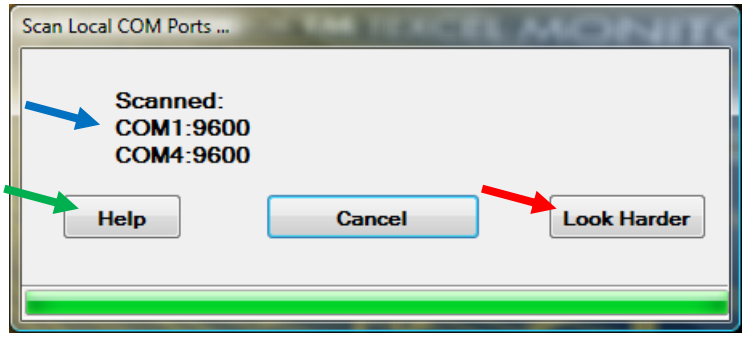


T-Link will progress to the Texcel Settings, Custom Settings or Retrieve Windows, depending on the button you clicked to connect.

Look Harder - Connection Fail Window

If for any reason T-Link cannot find a monitor connected to your PC, it will stop after scanning the local COM ports, with the Look Harder Window:

Figure 26: Look Harder Window



The list of COM Ports and Baud rates checked is displayed at the Blue Arrow.

- ☞ **If you have a long list of COM Ports and the scan takes a while, you can tell T-Link which COM Ports to ignore at Communications Options – COM Ports.**

Look Harder Button

The *Look Harder Button* (Red Arrow) will run the COM port scan again, but 'try harder' i.e. it will wait a little longer, and try a number of baud rates in case the monitor is stuck at a different baud rate.

- ☞ **Check the monitor is switched on**

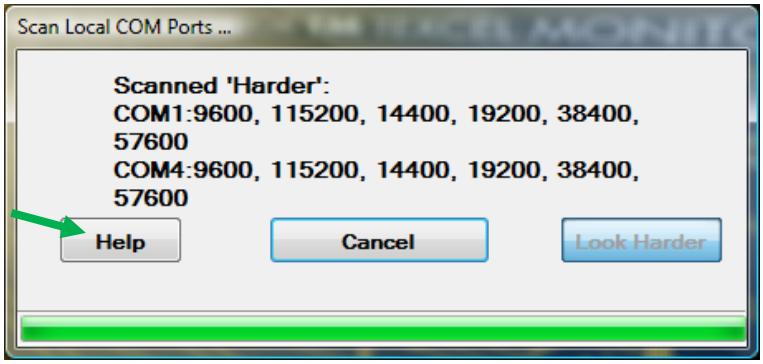
If this works, you will connect in exactly the same way as above.

If you have to press *Look Harder* button often, check the Monitor Quick Find parameter in Advanced Communications Options – General below.

- ☞ **You will need to contact Texcel to get a password to access the Advanced Communications Options.**

If you fail to connect, you will see the same window, with the Look Harder button disabled:

Figure 27: Looked Harder Window



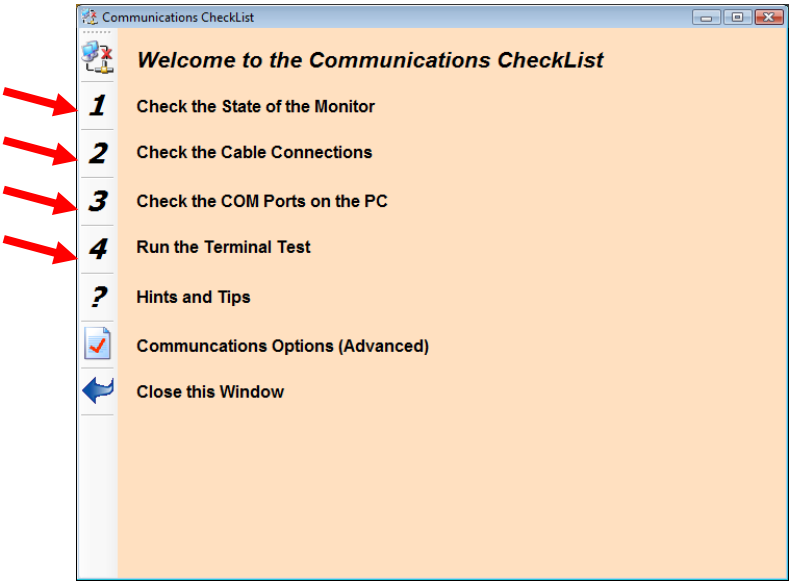
You can either Cancel or press the *Help Button* shown by the Green Arrow in Figure 26 or Figure 27 above.

The Help Button will access the Communications Checklist.

Communications Checklist

The Communications Checklist window guides you through a number of steps:

Figure 28: Communications Checklist



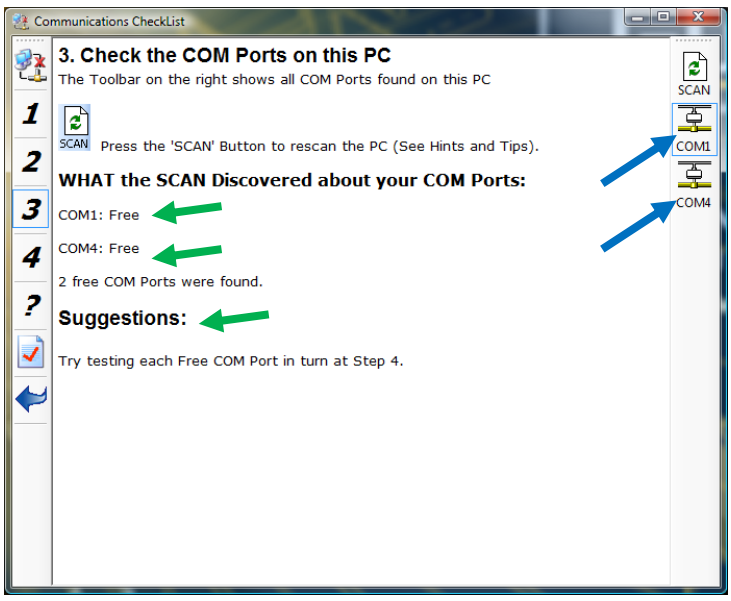
Click on the numbers on the left (Red Arrows) in turn and follow the instructions.

Steps 1 and 2 check whether the monitor is turned on and correctly connected – repeating some of the information shown above.

At step 3, the COM Port toolbar shows on the right (Blue Arrows below).

T-Link COM Port Suggestions

Figure 29: T-Link COM Port Suggestions

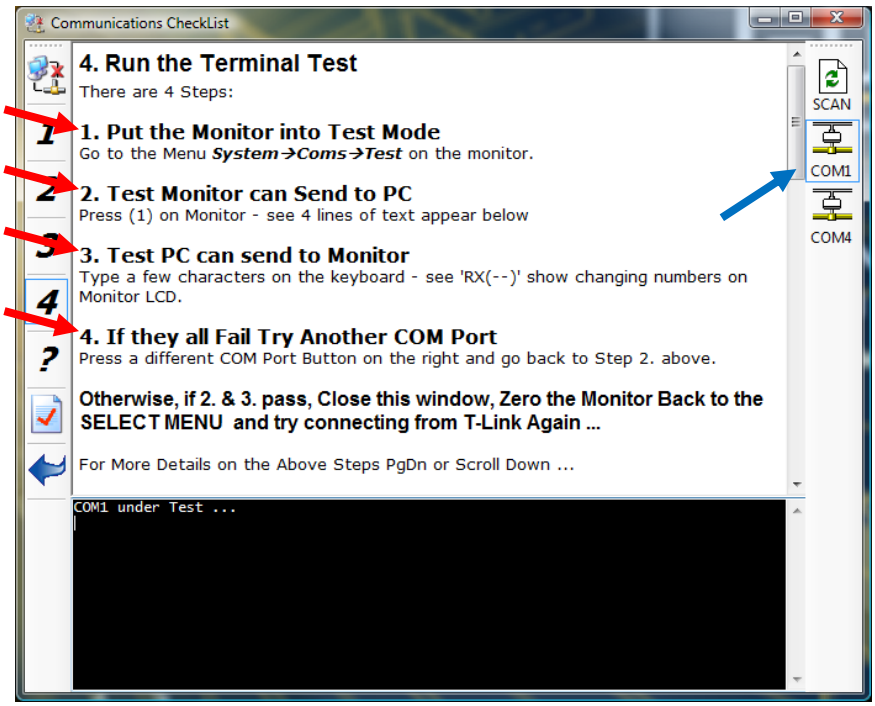

Communications CheckList
3. Check the COM Ports on this PC
The Toolbar on the right shows all COM Ports found on this PC
SCAN
Press the 'SCAN' Button to rescan the PC (See Hints and Tips).
WHAT the SCAN Discovered about your COM Ports:
COM1: Free
COM4: Free
2 free COM Ports were found.
Suggestions:
Try testing each Free COM Port in turn at Step 4.
SCAN
COM1
COM4

T-Link shows a status for each COM Port found on your PC, and also makes some suggestions as to the best way forward. See the Green Arrows above in Figure 30 above.

☞ **Please note these suggestions before proceeding to Step 4 where you can Run the Terminal Test:**

Run the Terminal Test

Figure 30: Run the Terminal Test


Communications CheckList
4. Run the Terminal Test
There are 4 Steps:
1. Put the Monitor into Test Mode
Go to the Menu System→Coms→Test on the monitor.
2. Test Monitor can Send to PC
Press (1) on Monitor - see 4 lines of text appear below
3. Test PC can send to Monitor
Type a few characters on the keyboard - see 'RX(--)' show changing numbers on Monitor LCD.
4. If they all Fail Try Another COM Port
Press a different COM Port Button on the right and go back to Step 2. above.
Otherwise, if 2. & 3. pass, Close this window, Zero the Monitor Back to the SELECT MENU and try connecting from T-Link Again ...
For More Details on the Above Steps PgDn or Scroll Down ...
COM1 under Test ...
SCAN
COM1
COM4

To run the Terminal Test, follow the 4 steps shown at the Red Arrows above.

The black box at the bottom functions as a standard terminal window.

The COM Ports Toolbar allows you to select from available COM ports or scan for COM Port changes.

☞ **Use the Scroll Bar (Blue Arrow) to see further detail on the each of the tests shown.**

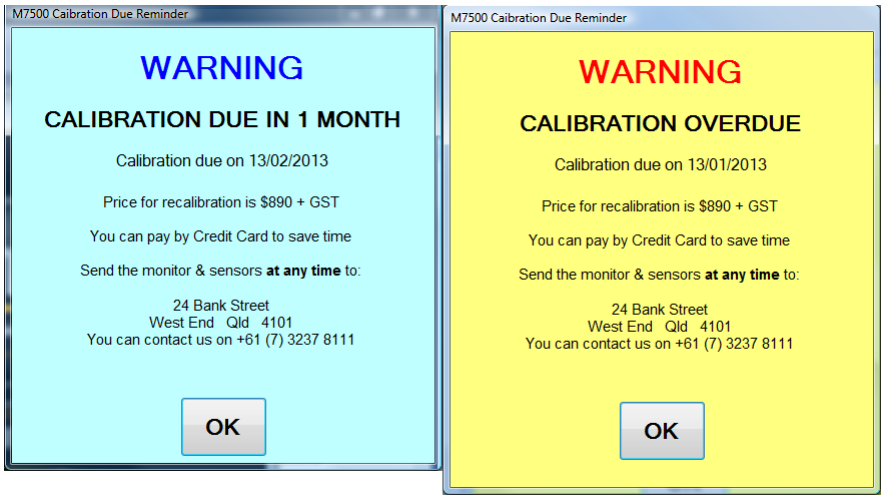
Running this test will confirm whether you have a problem with your serial cable, PC COM Port or monitor.

Calibration Due Reminders

When you connect to your monitor, T-Link will check whether it is due for calibration and remind you.

It will start prompting you one month before it is due, with a gentle reminder in the top right of the screen, and progress to a yellow and red warning in the middle of the screen when it is overdue:

Figure 31: Calibration Due Reminders


M7500 Caibration Due Reminder
WARNING
CALIBRATION DUE IN 1 MONTH
Calibration due on 13/02/2013
Price for recalibration is $890 + GST
You can pay by Credit Card to save time
Send the monitor & sensors at any time to:
24 Bank Street
West End Qld 4101
You can contact us on +61 (7) 3237 8111
OK
M7500 Caibration Due Reminder
WARNING
CALIBRATION OVERDUE
Calibration due on 13/01/2013
Price for recalibration is $890 + GST
You can pay by Credit Card to save time
Send the monitor & sensors at any time to:
24 Bank Street
West End Qld 4101
You can contact us on +61 (7) 3237 8111
OK

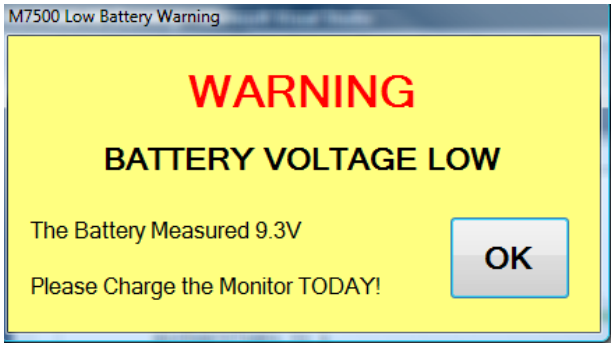
In no case will your T-Link be prevented from working normally with the monitor in question – all you have to do is click OK.

☞ **If you want to prevent any Calibration Due Reminders, Contact Texcel**

Battery Low Prompt

If the monitor's battery is low when you connect, T-Link will prompt you to charge the monitor's internal batteries.

Figure 32: Warning - Battery Low



In no case will your T-Link be prevented from working normally – all you have to do is click OK.

Please follow the advice on the message and charge your monitor.

Monitor Configuration

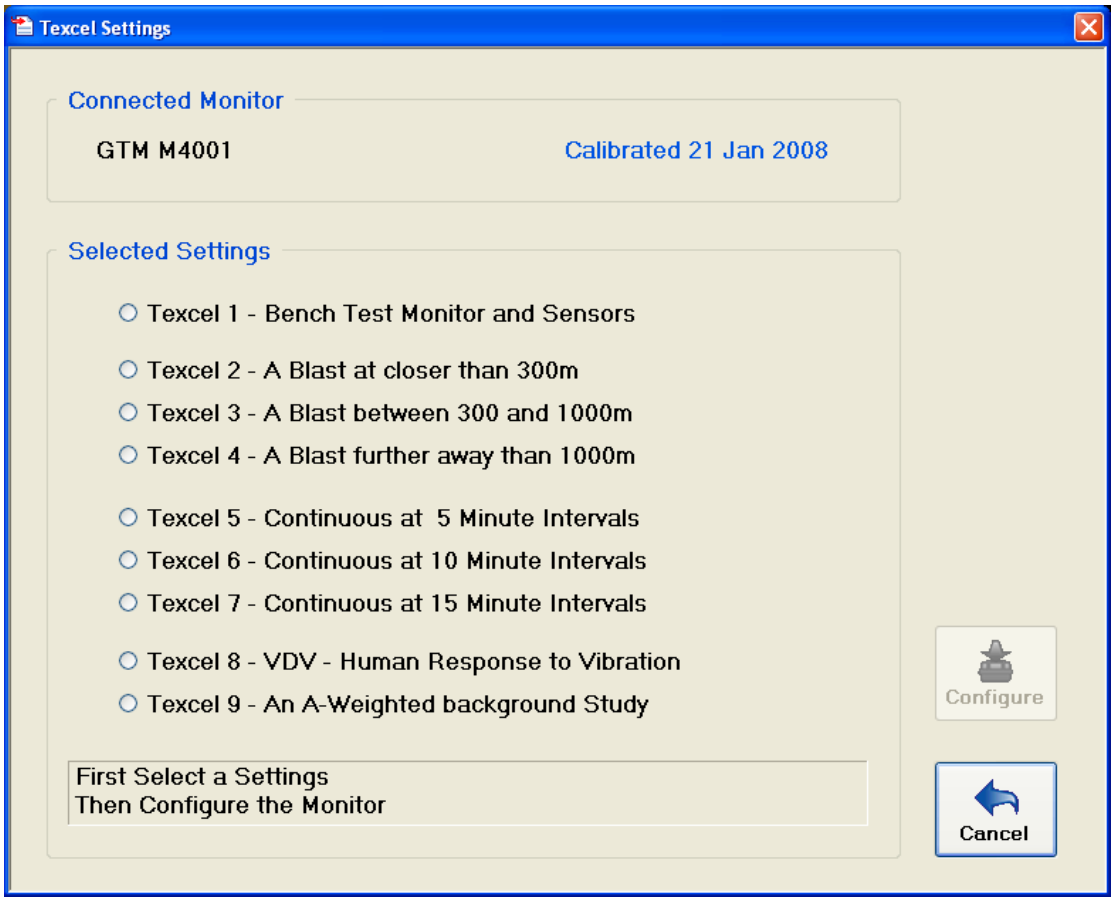
Texcel Settings

For ease of use and convenience we have provided a number of preset configurations.

Figure 33: Texcel Settings button

Press the button in Figure 33 to access Texcel's preset monitor configurations – see Figure 34:

Figure 34: Texcel Settings window


Texcel Settings
Connected Monitor
GTM M4001
Calibrated 21 Jan 2008
Selected Settings
Texcel 1 - Bench Test Monitor and Sensors
Texcel 2 - A Blast at closer than 300m
Texcel 3 - A Blast between 300 and 1000m
Texcel 4 - A Blast further away than 1000m
Texcel 5 - Continuous at 5 Minute Intervals
Texcel 6 - Continuous at 10 Minute Intervals
Texcel 7 - Continuous at 15 Minute Intervals
Texcel 8 - VDV - Human Response to Vibration
Texcel 9 - An A-Weighted background Study
First Select a Settings
Then Configure the Monitor
Configure
Cancel

Texcel 1 – Bench test monitor and sensors: Used to check that the monitor and sensors are working correctly;

Texcel 2, 3, 4 – A Blast: These settings are generally used when monitoring the effects of explosives and when a waveform of the event is required for analysis. Choose the settings by distance from the blast or vibration source; each Setting has a different recording time and trigger level;

Texcel 5, 6, 7 – Continuous at 5, 10, 15 minutes: In these settings the vector sum peak, the peak level and the frequency of the peak, for any of the 3 or 4 channels for the specified time period will be recorded. These setting are used to monitor a constant vibration source - e.g. a vibrating roller or pile driving machine;

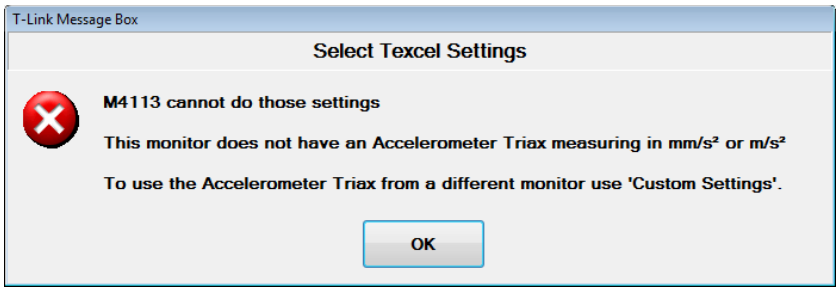
Texcel 8 – VDV: Vibration Dose Value, human response to vibration. Requires an triaxial accelerometer sensor;

Texcel 9 – An A-Weighted background study: For audible noise studies. Only available with the ETM, and then only if the A-Weight option is installed.

Texcel Settings not available

If you select a type, that your monitor is not able to do, this fact will be displayed in a message box like this:

Figure 35: Monitor cannot do Texcel Settings


T-Link Message Box
Select Texcel Settings
M4113 cannot do those settings
This monitor does not have an Accelerometer Triax measuring in mm/s² or m/s²
To use the Accelerometer Triax from a different monitor use 'Custom Settings'.
OK

Once you have chosen the settings the Configure button (Figure 36) is enabled.

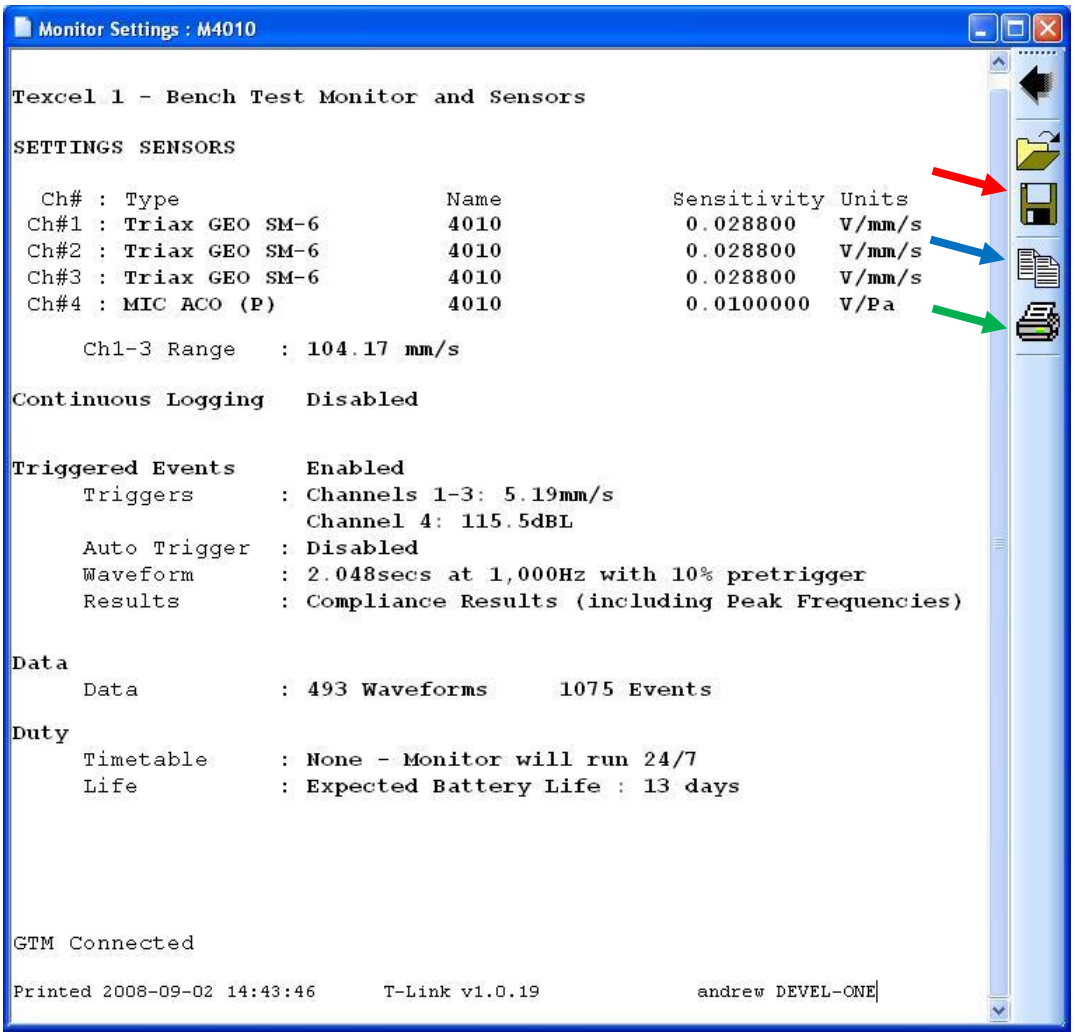
Figure 36: Configure button

☞ Press the Configure button **to configure the monitor with the selected settings.**

After the monitor is configured, a report of the setting details is displayed for confirmation and/or printing – see Figure 37 below:

Texcel Settings Display

Figure 37: Texcel Settings Display – GTM Bench Test


Monitor Settings : M4010
Texcel 1 - Bench Test Monitor and Sensors
SETTINGS SENSORS
Ch# : Type Name Sensitivity Units
Ch#1 : Triax GEO SM-6 4010 0.028800 V/mm/s
Ch#2 : Triax GEO SM-6 4010 0.028800 V/mm/s
Ch#3 : Triax GEO SM-6 4010 0.028800 V/mm/s
Ch#4 : MIC ACO (P) 4010 0.0100000 V/Pa
Ch1-3 Range : 104.17 mm/s
Continuous Logging Disabled
Triggered Events Enabled
Triggers : Channels 1-3: 5.19mm/s
Channel 4: 115.5dBL
Auto Trigger : Disabled
Waveform : 2.048secs at 1,000Hz with 10% pretrigger
Results : Compliance Results (including Peak Frequencies)
Data
Data : 493 Waveforms 1075 Events
Duty
Timetable : None - Monitor will run 24/7
Life : Expected Battery Life : 13 days
GTM Connected
Printed 2008-09-02 14:43:46 T-Link v1.0.19 andrew DEVEL-ONE

From this window, you can

Save the Report to Disk

Press the button at the Red Arrow to save the report as a Word compatible rtf file.

Copy the Report for pasting into another document

Press the button at the Blue Arrow to copy the report as a Word compatible rich text document fragment.

Print the Report

Press the button at the Green Arrow to print the report to your default printer.

Note: This same report is available under the Monitor Reports at any time – see Figure 137 below.

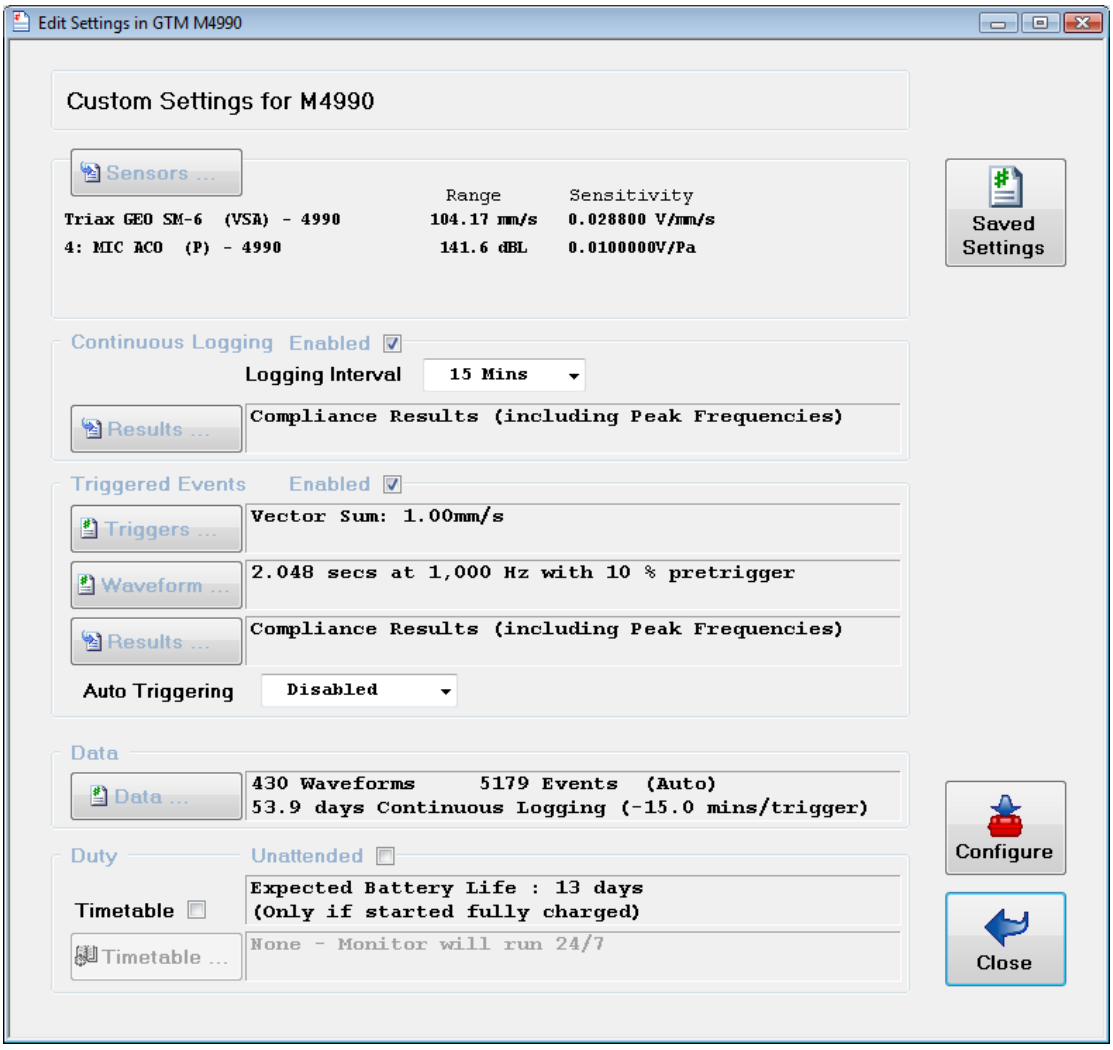
Custom Settings

T-Link also provides the ability for the user to customise the settings in the monitor. From the main menu click the button in Figure 38 to access the **Custom Settings:**

Figure 38: Custom Settings button

This displays the page shown in Figure 39. From this page you will be able to change individual settings to tailor the monitor for a wide range of site conditions. When any settings are changed they will be highlighted in red.

Figure 39: T-Link Settings Editor for a GTM



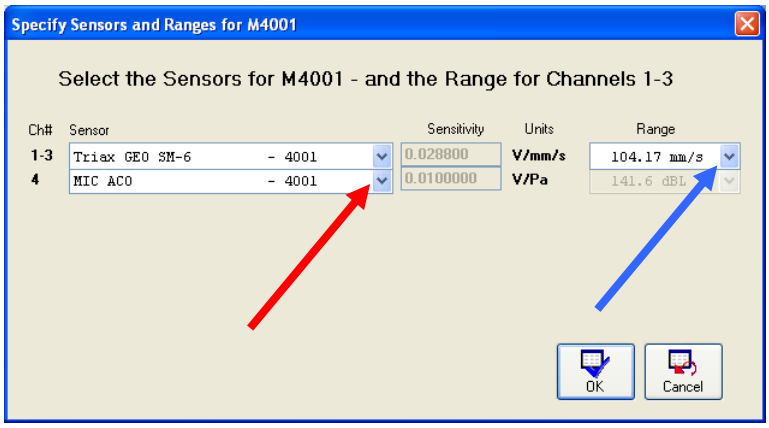
☞ **When connected to an ETM, two more options are shown – Alarm and Remote.**

Sensors

To select a different sensor or to change the sensor range, press the **Sensors** button displayed in Figure 39.

From this window (Figure 40) you have the ability to change the sensor type and the maximum range of the sensor.

Figure 40: Specify Sensors and Ranges window



Using the drop down box (click where red arrow is pointing to activate), select the sensor you intend to use from the selection provided. Sensors that are denoted as a triax can only be used on channels 1, 2 and 3. Channel 4 is for the microphone usually.

Sensor Range Selection

From this window you also have the ability to choose the range (click where blue arrow is pointing to activate). The range is the maximum level to which the monitor will record - e.g. 104.17 mm/s as shown in Figure 40.

The Texcel Microphone

The Texcel microphone can appear as two entries on the sensor menu:

```
MIC ACO                 - 7500
MIC ACO   (P)           - 7500
```

Select **MIC ACO (P)** to enable Texcel Peak Detect to meet the "P" time-weighting characteristic as specified in AS 1259.1-1990. As required by Western Australia's Environmental Protection (Noise) Regulations 1997.

☞ **A Microphone has a fixed range.**

The Texcel Triaxial Accelerometer

```
Triax ACC   (Smart VDV) - 7500
Triax ACC   (Smart)     - 7500
```

Texcel provide a smart triaxial accelerometer sensor, that can operate as an accelerometer triax, or in a band limited mode to provide VDV results in accordance with NSW EPA "***Assessing Vibration: a technical guideline***" of February 2006. It also appears as two items on the menu.

Select the **Triax ACC (Smart VDV)** to enable VDV operation.

☞ **Texcel provides a Technical Bulletin (TB0005) with more detail on VDV**

Continuous Logging and/or Triggered Events

After the Sensors are selected, you must choose whether you want Continuous Logging and/or Triggered Events.

- **A Settings will not be valid without one of these two modes enabled.**

Continuous Logging Explained

Continuous logging records results at selected time intervals. The results capture the peak over the whole interval – no sample is missed. Results include Vector Sum and peaks for all channels (including zero-crossing peak frequency).

- **VDV and A-Weight Results are only available in Continuous Logging events provided the correct sensor is available and selected.**

Enabling Continuous Logging will display options for setting the Continuous Logging Interval and Result Selection – see Continuous Logging Interval below.

Triggered Events Explained

Triggered events record samples for a preset time period after a trigger event is detected. T-Link provides very flexible trigger conditions including triggering on the vector sum rather than an individual channel, and, with the ETM, external hardware trigger sources. Triggered Events are usually associated with capturing waveforms for graphic reports and/or further detailed analysis.

Enabling Triggered Events will display options for setting Trigger Conditions, Waveform Details and Triggered Event Results selection – see Triggered Events below.

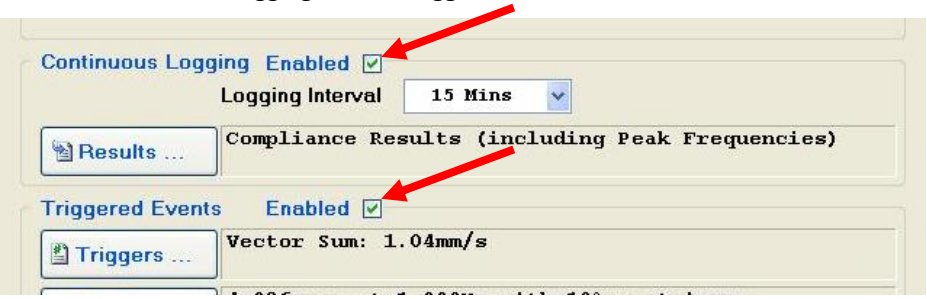
- **T-Link allows both of these modes to operate at the same time.**

They operate independently, allowing waveforms to be triggered and recorded without interrupting Continuous Logging.

Enabling Continuous Logging AND/OR Triggered Events

Enable tick boxes for Continuous Logging and Triggered Events are in the centre of the GTM Custom Settings (Figure 39 above) or ETM Custom Settings (Figure 93 below) windows – shown here with red arrows:

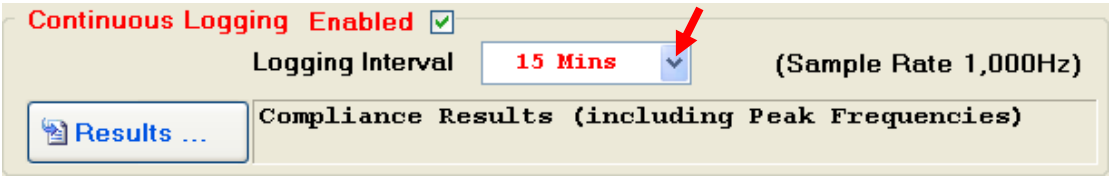
Figure 41: Enable Continuous Logging and/or Triggered Events



Continuous Logging Interval

To set the time interval for continuous monitoring, use the drop down box indicated by the red arrow in Figure 42:

Figure 42: Continuous Logging Enabled

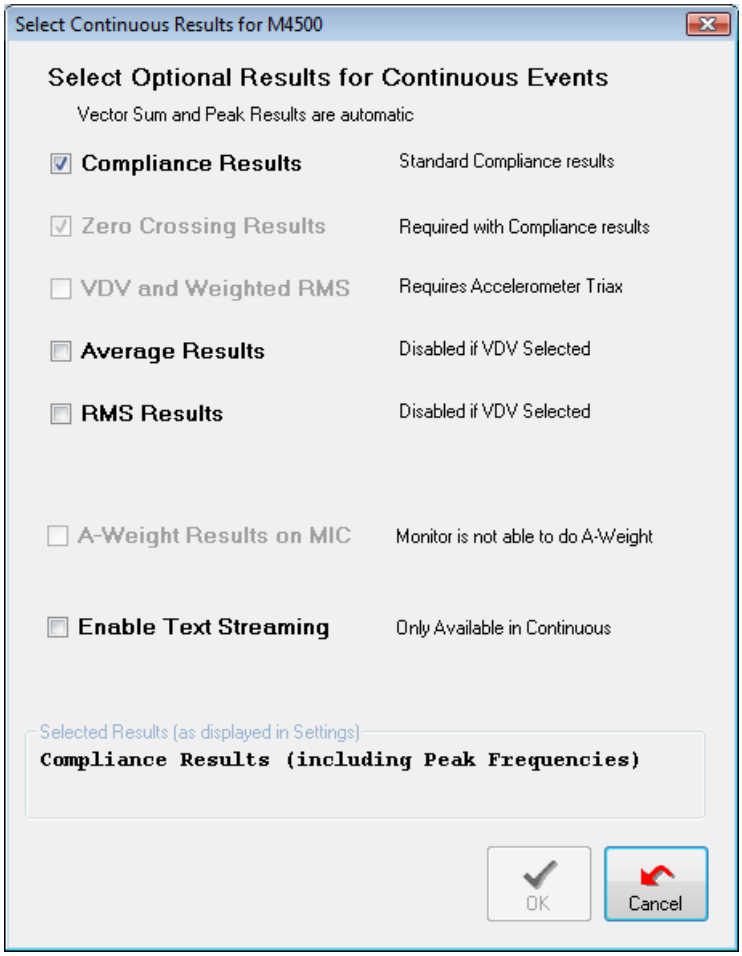


The time interval may be set as low as 1 second or as high as 12 hours.

Continuous Logging Results

From this page you can choose the event summary data that will be recorded and available for reports. Six different options are available to suit your needs – see Figure 43:

Figure 43: Continuous Results



Compliance Results:
Records the data required for compliance monitoring. Compliance Results requires the use of a triaxial sensor. Selecting Compliance Results will require the selection of Zero Crossing Results.

Zero Crossing Results:
Contains frequency information for the peak on the channel. With Frequency and Peak values you can estimate acceleration and displacement. All of these are reported on certain blast reports.

VDV and Weighted RMS:
Can only be used in Continuous mode of operation.

- ☞ **This feature is only enabled when a VDV capable Accelerometer is selected in the Sensors.**

Used for **Human Response to Vibration**. See Figure 44.

Average Results:
An average (or mean) value for each channel.

RMS Results:
RMS (Root Mean Square) value for each channel.

A-Weight Results on MIC:
Can only be used with the ETM and ETM PI in continuous mode of operation and with the A-Weight option fitted.

Enable Text Streaming:
Available with ETM firmware versions 2.31 or greater (1.31 with GTM).

Text Streaming
Text Streaming is a new feature that sends a *Text Stream* of the event results on each Continuous Mode event out of the ETM's (or GTM's) COM or USB Port. This allows a locally connected PC to receive and save the *Text Stream* to a file and then import it to a spreadsheet or database system, or process it in any other way.

Each event sends a single line of text, with the individual results delimited by the <Tab> character, and the line is terminated with <CR><LF>. This matches our event spreadsheet export file formats, and will be read directly be Excel and most other Spreadsheets (for spreadsheet import, this file is normally saved as a .txt file).

The first line in the file will be a 'header' line with headers as defined in Technical Bulletin **TB0015 - Spreadsheet Report Headers**, which is accessible from the Texcel T-Suite Access Window see Figure 3 above.

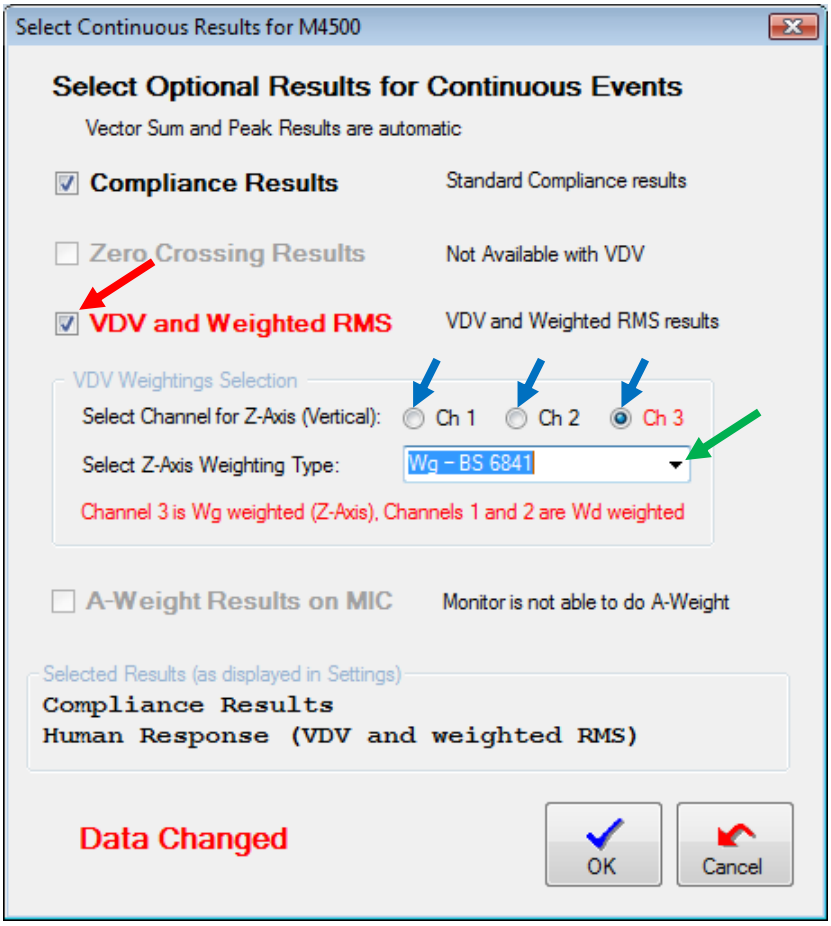
- ☞ **It is recommended to use Unattended Duty when Text Streaming**

See Unattended Duty below.

VDV and Weighted RMS

If you select VDV Results at the red arrow in see Figure 44 below, you have the option of setting the orientation of the 'Z-Axis' or 'Foot to Head' direction in relation to the triaxial accelerometer, and the Z-Axis Weighting :

Figure 44: Continuous Results VDV


Select Continuous Results for M4500
Select Optional Results for Continuous Events
Vector Sum and Peak Results are automatic
Compliance Results
Standard Compliance results
Zero Crossing Results
Not Available with VDV
VDV and Weighted RMS
VDV and Weighted RMS results
VDV Weightings Selection
Select Channel for Z-Axis (Vertical):
Ch 1
Ch 2
Ch 3
Select Z-Axis Weighting Type:
Wg – BS 6841
Channel 3 is Wg weighted (Z-Axis), Channels 1 and 2 are Wd weighted
A-Weight Results on MIC
Monitor is not able to do A-Weight
Selected Results (as displayed in Settings)
Compliance Results
Human Response (VDV and weighted RMS)
Data Changed
OK
Cancel

You can select which channel is the Z (or vertical) axis. See the blue arrows in Figure 44 above. The default is channel 3.

The chosen Z axis defaults to Wg (BS 6841: 1987) weighting, or you can choose Wb (BS 6841: 1987) or Wk (ISO 2631-1) for the Z axis at the green arrow in Figure 44 above.

The X and Y axes are Wd (BS 6841: 1987) weighted.

Note: Channel 1 is radial, 2 transverse and 3 vertical when the sensor is mounted in the normal orientation.

☞ **Texcel provides a Technical Bulletin (TB0005) with more detail on VDV**

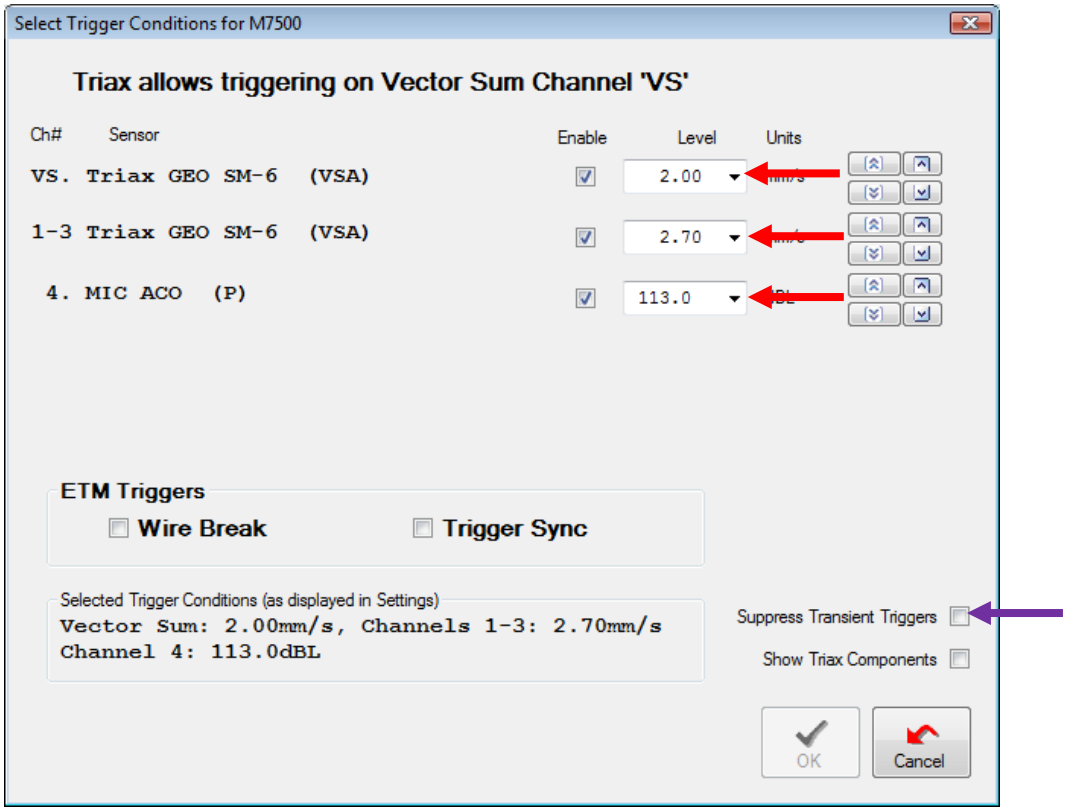
Triggered Events

Once Triggered Events are Enabled you can set the conditions which will cause the monitor to start recording an event, from the **Triggers …** button. See Figure 39 above.

Triggers

The sensors available in this window will reflect the sensors selected under Sensors (see Figure 40 above), or as required by your original Texcel Settings choice (see Figure 34 above).

Figure 45: Trigger Conditions window for a GTM



☞ **When connected to a GTM, Wire Break and Trigger Sync Options are not shown.**

This window allows you to choose both the trigger source (sensor/channel) and the trigger level. One or more sensors/channels may be used for the trigger source.

To select trigger source/s, tick the boxes under the **Enable** heading, beside the source/s you would like to use.

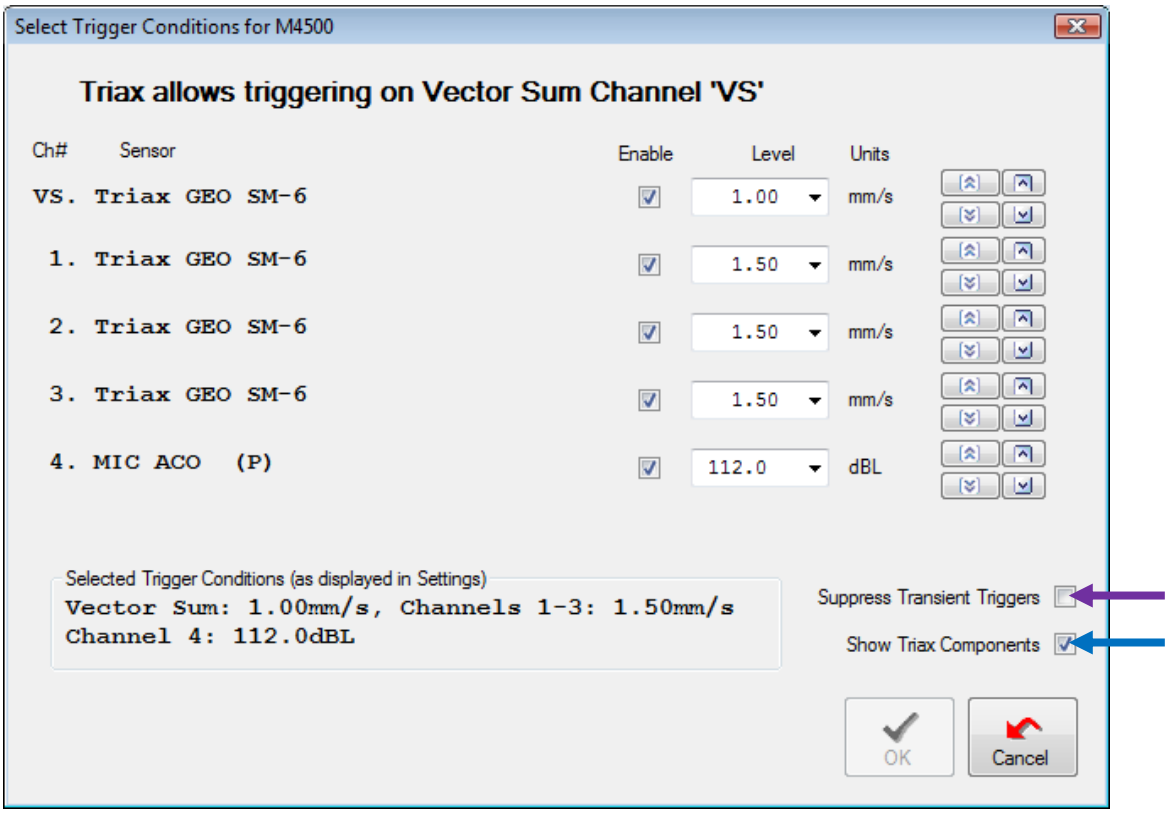
Use the drop boxes (click where red arrows point) to set a level or use the up-down arrows to the right of the drop box to adjust the level.
Figure 46 shows the up-down arrows and how they function:

Figure 46: A single arrow for fine (small steps) and a double arrow for coarse (large steps)

Trigger on Triax Component

To select an individual channel of a Triaxial sensor to initiate the event recording, first tick **Show Triax Components** indicated by blue arrow in Figure 47.

Figure 47: Trigger Conditions window geophone triax components displayed individually



Using this window, tick the Enable box beside the desired channel, and then set the level (as shown in Figure 45 above).

With the Texcel geophone triax (see Figure 9 above), the direction of the red arrow on the landcase (radial) is channel 1, the transverse direction (at right angles to the red arrow) is channel 2, and the vertical direction is channel 3.

- **Tips:**

- **If the geophone triax is situated in an area where there is a lot of activity (e.g., trucks, cattle or machinery nearby), and the trigger level is set too low, the monitor will constantly trigger and fill the monitor's memory.**

- **In windy areas, if the microphone trigger level is too low, gusts of wind may trigger the monitor constantly.**

Suppress Transient Triggers

T-Link 2 with firmware version 2.2 (or greater) will offer the ability to suppress transient trigger events. This can be useful in electrically noisy environments.

When enabled, it will require that the specified trigger threshold level be maintained for 3 samples in a row before a trigger event is recorded.

Click the Suppress Transient Triggers tick box (at the purple arrow in Figure 45 or Figure 47) to enable this.

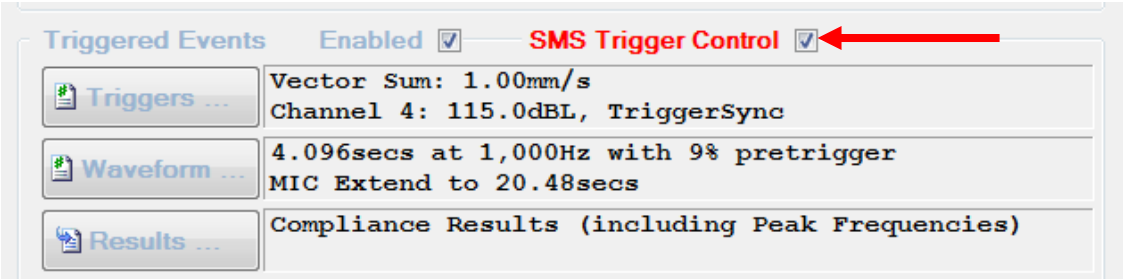
SMS Trigger Control

This feature allows remote control of thresholds for ETMs configured with SMS.

See Remote below.

If an ETM Settings is Remote enabled with an SMS capable modem, the SMS Trigger Control enable will be shown next to the Triggered Events enable (see the red arrow):

Figure 48: SMS Trigger Control Enable



SMS Trigger Control provides remote control of the Threshold trigger enable of an ETM via simple SMS messages.

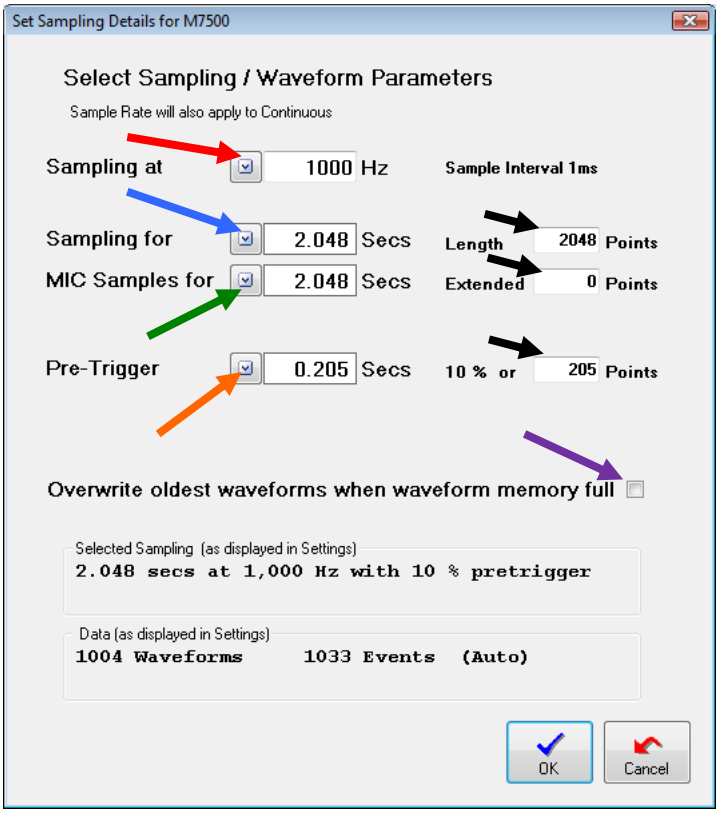
- **All thresholds are suppressed when the ETM wakes up or goes duty, and are only enabled by receiving an SMS!**
- **With FW 2.31, the threshold triggers are NOT suppressed when the ETM wakes up or goes Duty**

Full details are available in the Technical Bulletin – SMS Trigger Control installed with T-Link and this manual – available from the Programs Menu\Texcel.

Sample Rate and Waveform Length

To change the waveform parameters press the **Waveform** button (displayed in Figure 39 above) to show this window:

Figure 49: Waveform Sampling Details window



Sampling at: Use the drop box indicated by the red arrow to change the *sample rate*. Available sample rates vary with sensor selections, but can range from 20 Hz to 40,000 Hz. The menu shows both the sample rate and sample interval for convenience. Changing the sample rate will affect the recording times under **Sampling for**, **MIC Samples for** and **Pre-Trigger**.

Sampling for: Is the full *recording time*, or *waveform length*, for all sensors (channel 4 may be extended – see **MIC Samples for**). The full recording time includes the Pre-Trigger time. The menu shows both length of recording time and number of points. The length of time available will vary with sample rate. Use the drop box indicated by the blue arrow to change the sampling time. Changes to waveform length will affect the **Pre-Trigger** time and number of waveforms and events as displayed under **Data**.

MIC Samples for: *Extends* the recording time for the *microphone*. The menu will show the option under **Sampling for** as a minimum, and allows an extension of up to 128 k Points. The options will change to reflect changes made under **Sampling for** above. Use the drop box indicated by the green arrow to change the extension to the microphone recording time. These changes will affect the number of waveforms and events as displayed under **Data**.

Pre-Trigger: Is that part of the *waveform* that occurs *before the Trigger point*, and ensues that the event is captured in its entirety. The menu displays the option in Time, percentage, and number of points. Percentages available vary from 0% to 95%. Time and number of point options vary with sample rate and waveform length. Use the drop box indicated by the orange arrow to change the pre-trigger time.

Points: By entering numbers in the Points boxes (at the black arrows) you can set the length of the waveform sections directly.

☞ **You can create any length of waveform this way**

Overwrite oldest waveforms when waveform memory full

Tick the box at the purple arrow to enable this mode. This mode means that when the waveforms are full, you have the latest waveforms instead of the first waveforms captured.

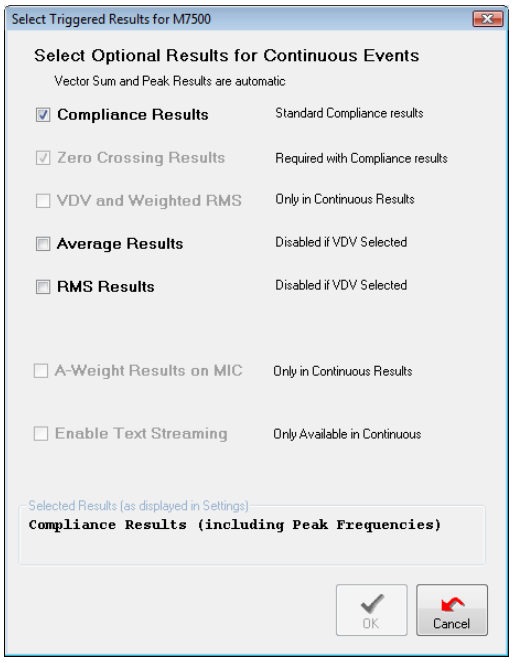
☞ **If the events fill up (as well as the waveforms), no more waveforms will be captured**

Only available with FW 2.31 or greater (1.31 in the GTM).

Triggered Event Results

From this window (see Figure 50) you can choose the event summary data that will be recorded and available for the reports. Six different options are available:

Figure 50: Triggered Results



☞ **Peak Results (and the peak time) are always recorded for all enabled channels.**

Compliance Results: Records the data required for compliance monitoring. Compliance Results require the use of a triaxial sensor. Selecting Compliance Results will require the selection of Zero Crossing Results.

Zero Crossing Results: Contains frequency information for the peak on each channel. With Frequency and Peak values you can estimate acceleration and displacement. All of these can be reported on blast reports.

VDV and Weighted RMS: Can only be used in Continuous mode of operation using an accelerometer. DISABLED IN FIGURE.

Average Results: A value for each channel.

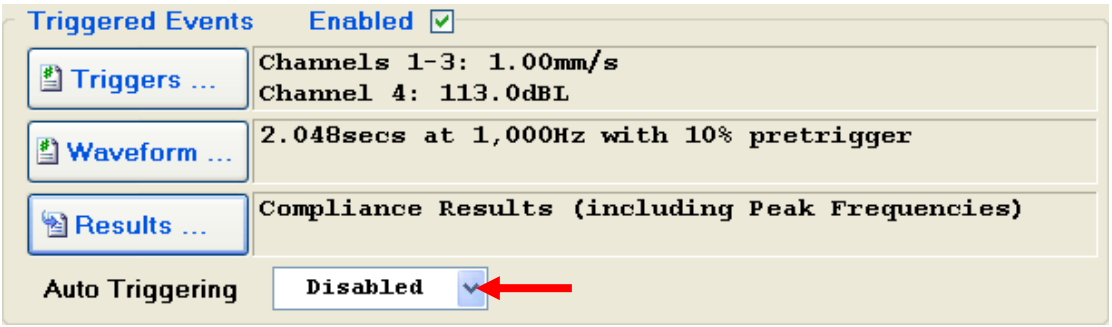
RMS Results: RMS value for each channel.

A-Weight Results on Mic: Can only be used with the ETM and ETM PI in Continuous mode of operation. DISABLED IN FIGURE.

Auto Triggering

Auto triggering allows you to record an event at a specified time interval ranging from every 5 seconds up to every 12 hours. The details of the waveform saved are the same as those set with the Waveform window above. Use the drop box indicated by the red arrow in Figure 51 to change the time interval.

Figure 51: Triggered Events



Auto Triggered events do not, by default, save a waveform, but once enabled, a tick box is displayed to allow waveforms to be saved.

Auto Retrigger Mode gives Continuous Coverage

A new Autotrigger mode called *AutoRetrigger* on the menu retriggers the ETM (or GTM) as soon as the previous waveform has finished.

The Autotrigger period is set by the waveform length.

This mode collects a sequence of waveforms that seamlessly cover a period of time.

☞ **You don't miss a sample in the waveforms**

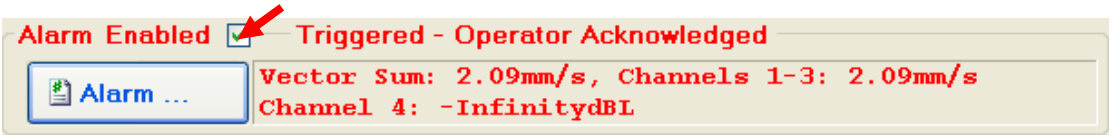
Only available with FW 2.31 or greater (1.31 in the GTM).

Alarm

☞ **Note: for the alarm to be effective you must have an Alarm Beacon.**

The alarm can only be used with the **ETM**.

Figure 52: Alarm Enabled



Tick the **Alarm Enabled** box (red arrow in Figure 52), to access the **Alarm…** button to set the Alarm trigger level.

When the **Alarm…** button is pressed, it opens the Alarm Conditions window shown in Figure 53 below, which allows you to set the conditions which will cause the ***Alarm Beacon*** to start flashing:

The alarm occurs in either Triggered or Continuous Mode, and you can set how long the alarm will flash for with the Alarm Timeout:

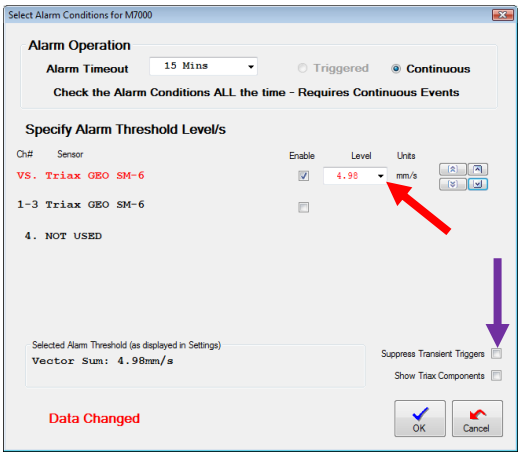
Alarm Timeout: The beacon will flash for the time set here and then turn off automatically. If you are using the Alarm Button and require the alarm to be acknowledged by an operator, select Operator from this drop box.

☞ **Note: An Alarm can also be acknowledged by SMS. See Technical Bulletin – ETM SMS Capabilities – on Programs Menu\Texcel.**

Triggered: If Triggered is selected, the alarm conditions are only applied when the monitor has been triggered – i.e. by considering the results of the triggered event only. This option is only available if Triggered Events in Figure 39 above has been enabled.

Continuous: If Continuous is selected, the alarm conditions are applied all the time and the alarm occurs any time the conditions are met. This option is only available if Continuous Events in Figure 39 above has been enabled.

Figure 53: Select Alarm Conditions



This window operates in a very similar manner to the Trigger Conditions (see Figure 45 above).

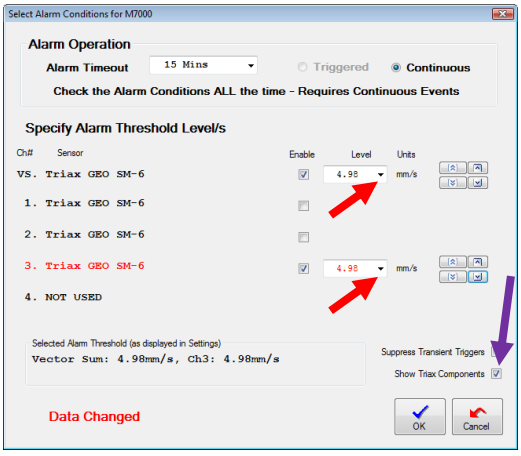
This window allows you to choose both the trigger source (sensor/channel) and the trigger level. One or more sensors/channels may be used for the trigger source.

To select trigger source/s, tick the boxes under the **Enable** heading, beside the source/s you would like to use.

Use the drop boxes (click where red arrows point) to set a level or use the up-down arrows to the right of the drop box to adjust the level.
Figure 54 shows the up-down arrows and how they function

Figure 54: A single arrow for fine (small steps) and a double arrow for coarse (large steps)

Figure 55: Select Alarm Conditions with individual components shown



The **Show Triax Components** and **Suppress Transient Triggers** tick boxes also work the same as in the Trigger Conditions Window (see Figure 45 above).

☞ **The Suppress Transient Triggers is a global setting, and will apply to all trigger settings in the monitor's settings (i.e. Triggered Events and SMS Alarms too).**

Data

In T-Link you have the ability to trade off waveforms and events.

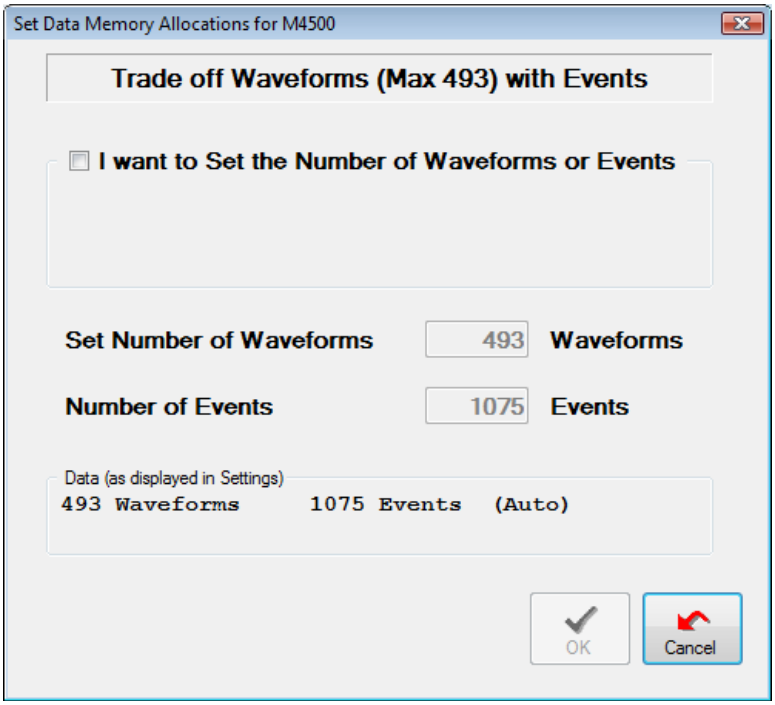
T-Link will automatically allocate a minimum number of events depending on your trigger and continuous mode selections, and then fit as many waveforms in as it can.

The fact that T-Link has done this is shown by the **(Auto)** red arrow in Figure 56:

Figure 56: Data information

To adjust the number of events or waveforms, press the **Data …** button in Figure 56, and Figure 57will appear.

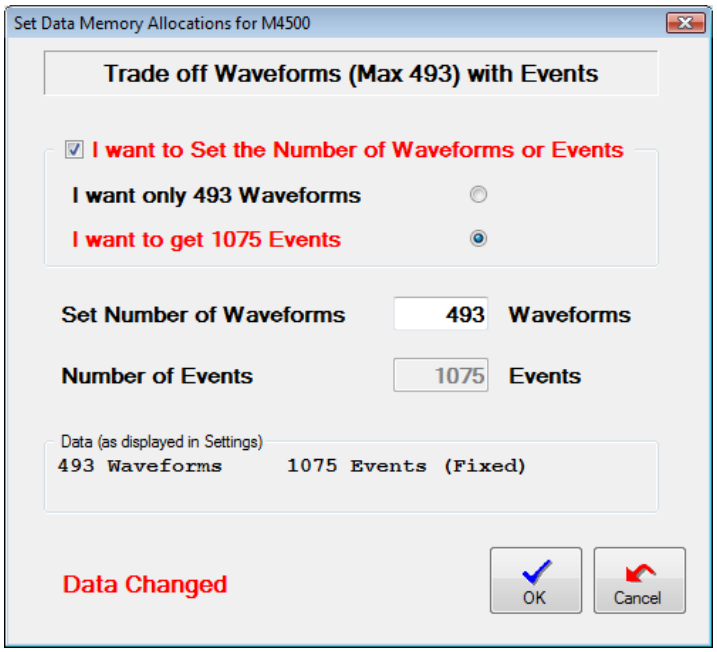
Figure 57: Trade-off Events and Waveforms



Tick the **I want to Set the Number of Waveforms or Events** box to override T-Link's internal trade-off.

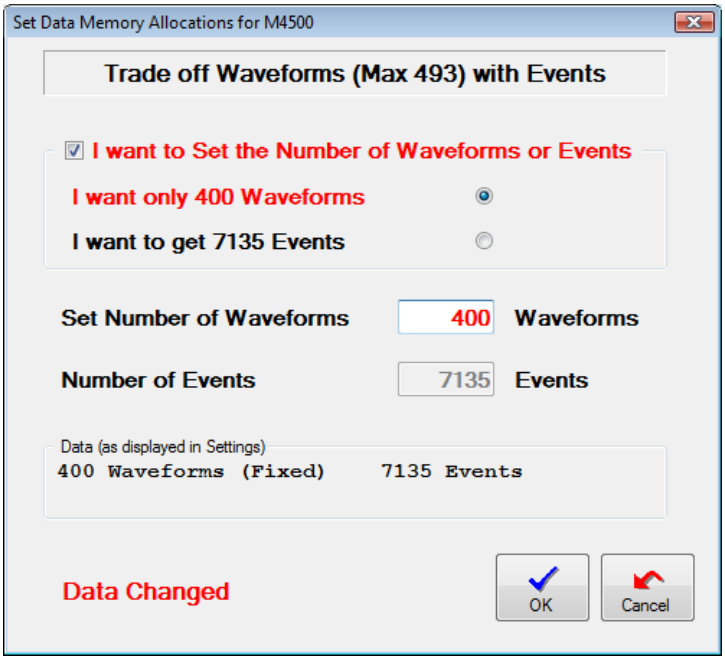
☞ **Clear the tick to return to T-Link's (Auto) allocation.**

Figure 58: Trade-off Events and Waveforms – Fixed Events



Tick the **I want to get ### Events** box and specify smaller numbers of waveforms to get the number of events you need – for example to ensure enough days for your Continuous logging needs.

Figure 59: Trade-off Events and Waveforms - Fixed Waveforms



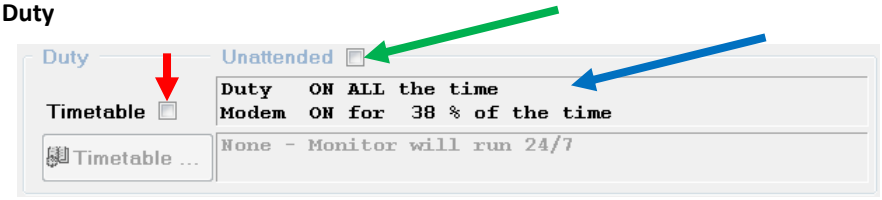
Tick the **I want to only ### Waveforms** box and specify the number of waveforms you need.

☞ **T-link requires you to specify to fix either events or waveforms, so it can keep it the same when you change the size of the waveform.**

Duty

This function allows you to set the hours of operation for the monitor.

Figure 60: Duty



Without a Duty Timetable, the monitor will run continuously until switched off by the user. To change this, tick the box indicated by the red arrow (in Figure 60) to enable a Duty Timetable. Then click on the **Timetable** button in Figure 60 to access the Timetable Select Window (Figure 61) below.

Note: The message showing at the blue arrow will depend on your settings and monitor type.

Unattended Duty

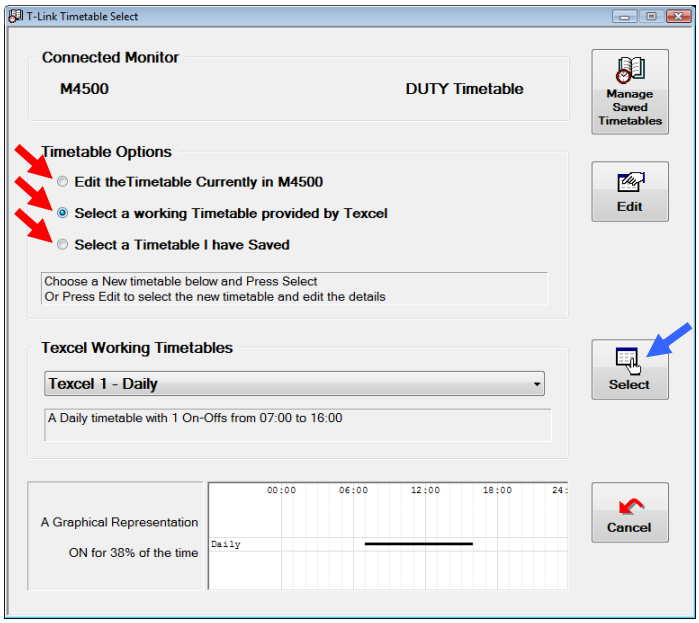
Ticking the box at the green arrow enables Unattended Duty mode. This hardens the ETM (or GTM) operation when unattended in these ways (among others):

- It will always go Duty when powered on (e.g. recovering from power fail)
- If you leave it at the menu, it will go Duty rather than shut down
- To protect itself from electrical spikes, it ignores the red power off button

☞ **To turn the ETM (or GTM) Off in Unattended mode, press and hold the Zero (Back) button till it turns off (~ 10 secs)**

Timetable Selection

Figure 61: Timetable Select window



Timetable Selection Options

To access the options for changing the duty timetable of the monitor, highlight one of the circles indicated by the red arrows in Figure 61 above:

Edit the Timetable Currently in M7002: Use the **Edit Button** on the right to open the Timetable Edit Window using the Current Timetable.

Select a working Timetable provided by Texcel: This enables a menu of standard Timetables - use the drop box indicated by the blue arrow to view and select the choices.

Once chosen, press the **Edit Button** to Edit that Timetable to your requirements, or press the **Select Button** to select that timetable into the settings – this closes this window and returns to the Custom Settings window.

Select a Timetable I have Saved: Once you have saved a timetable you have created, this option will become available, and the drop box (at the blue arrow) and buttons will work on your Saved Timetables in the same way as they do in the Texcel Timetables.

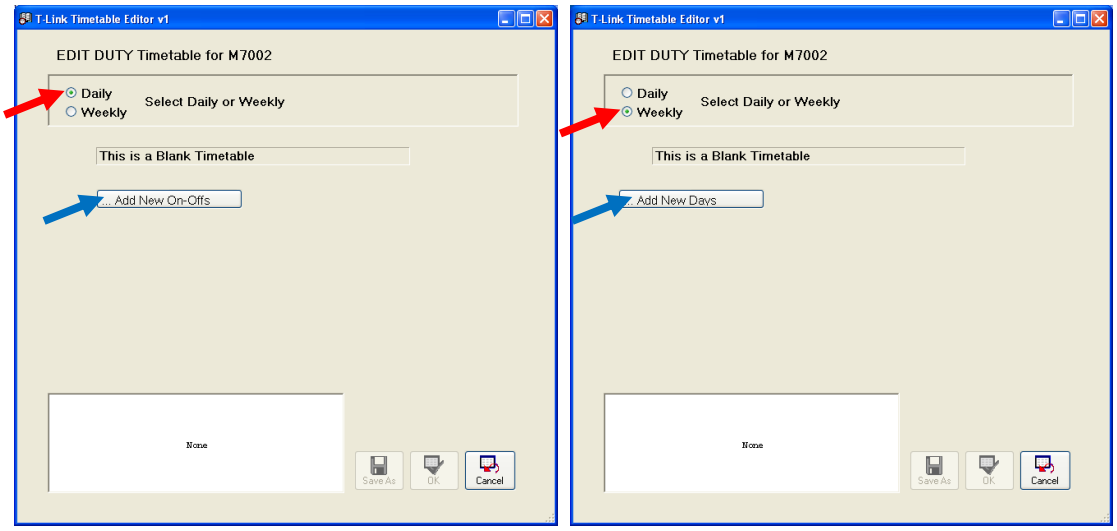
☞ **It is often easier to select an example timetable to start with**

If you just click Edit when a settings does not have a timetable, you will start with a blank timetable.

Timetable Editing

If you are editing a blank timetable, you must first select whether the monitor will operate on a daily or weekly basis – see Figure 62:

Figure 62: Timetable Blank Timetables – Daily or Weekly



Daily or Weekly Timetables

Select Daily or Weekly at the red arrows in Figure 62 above. These options are only available in a blank or 'empty' timetable.

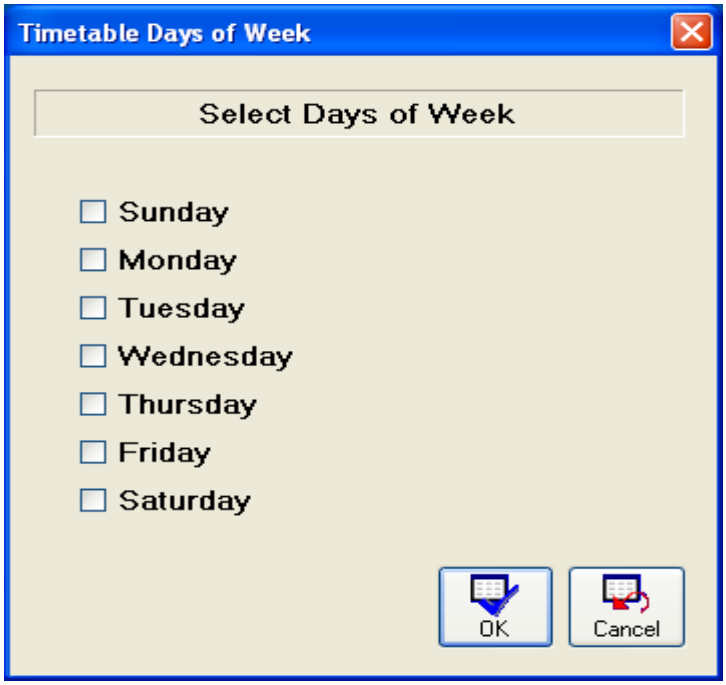
A Daily timetable operates the same on every day of the week - ignoring weekends.

☞ **If you want to have different monitoring times on weekends select a weekly timetable**

If the daily option is selected, press the **… Add New On-Offs** button (blue arrow in Figure 62 above) to create monitor turn on and off times.

If the Weekly option is selected, press the **… Add New Days** button (blue arrow in Figure 62 above) and a screen (Figure 63) will appear that allows you to select the days of the week you require:

Figure 63: Timetable days of the week



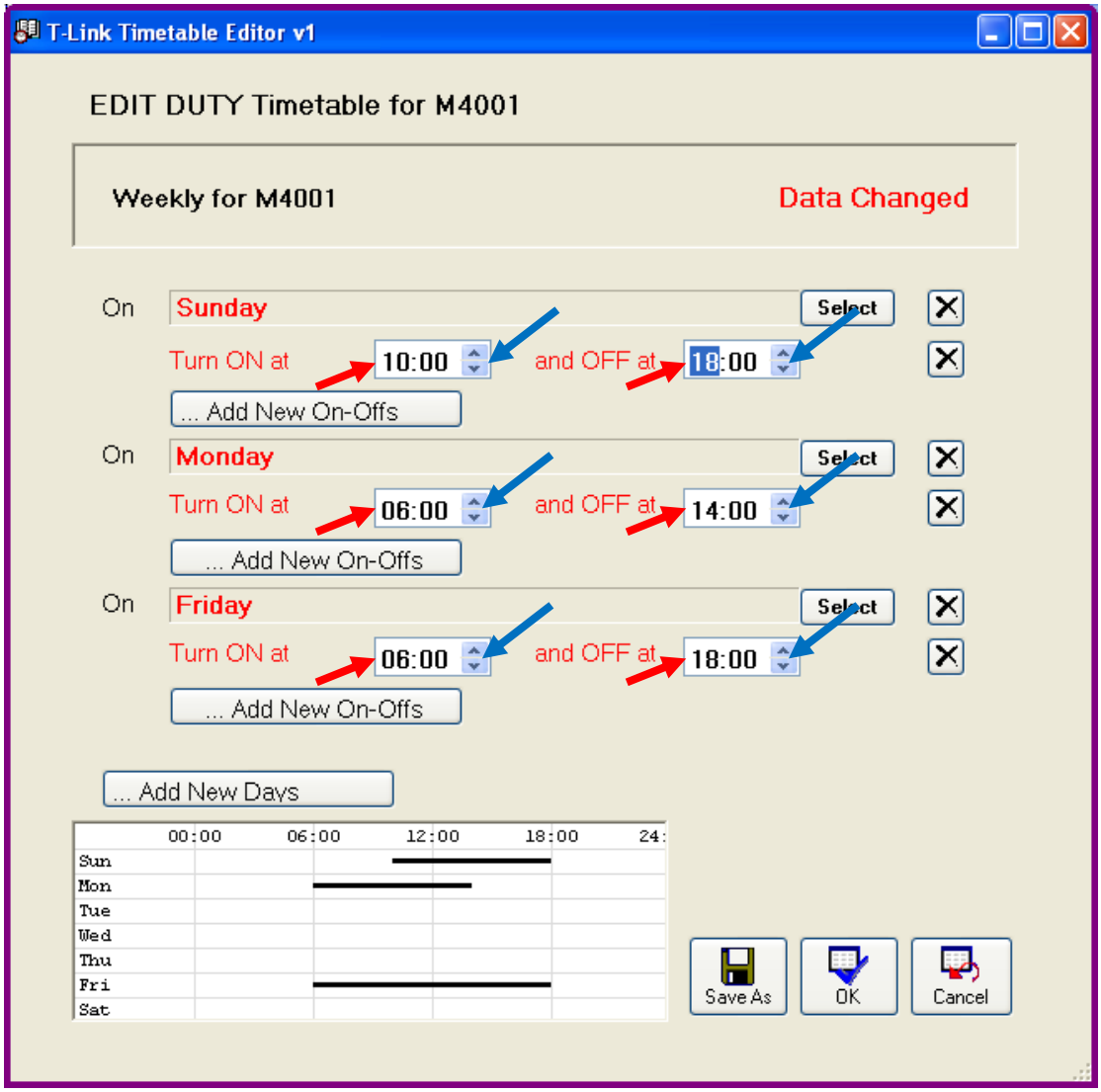
Once you have selected the days of operation, press the **OK Button.**
The day will appear, and show an **…Add New On-Offs** button.

Press the **…Add New On-Offs** button to set the monitor turn on time and turn off time as shown above for the daily timetable – see Figure 64 below.

Add or Edit On-Off Times

The only difference between Daily and Weekly On-Off time editing is that in Weekly timetables, the On-Off times are managed in groups by day.

Figure 64: Weekly timetable example different hours of operation



Adjust the On-Off Times:

By clicking the Up and Down arrows shown by the blue arrows in Figure 64,
or
By typing directly into the text box, as shown by the red arrows in Figure 64.

Any changes are automatically updated in the graphical display.

Press **… Add New On-Offs** to add more On-Offs on any day.

☞ **Adjust the times before adding the next On-Off.**

Note: Once the latest timetable entry Off time is 21:30 or more, the **… Add New On-Offs** button will be disabled for that day.

Add or Edit Days of the Week

In a weekly timetable, the **… Add New Days** button will be available until you have allocated all days. In a Daily Timetable, the**… Add New Days** button will not be visible.

You may also have a different set of operating hours on each day – as in Add or Edit On-Off Times.

The only difference between Daily and Weekly On-Off time editing is that in Weekly timetables, the On-Off times are managed in groups by day.

Press any **Select** Button to change or add new days to the selected On-Offs, from the window in Figure 63. This will prevent you from overlapping the days.

Figure 65: Delete Button

Use the Delete Button (Figure 65) to delete an On-Off or a whole Day of On-Offs.

At any point, press **Cancel** to abandon changes and return to the Timetable Select Window (Figure 61 above).

Once you are happy with the timetable, Press **OK** to save the edited timetable into the monitor's settings and return to the Custom Settings window (Figure 39 above).

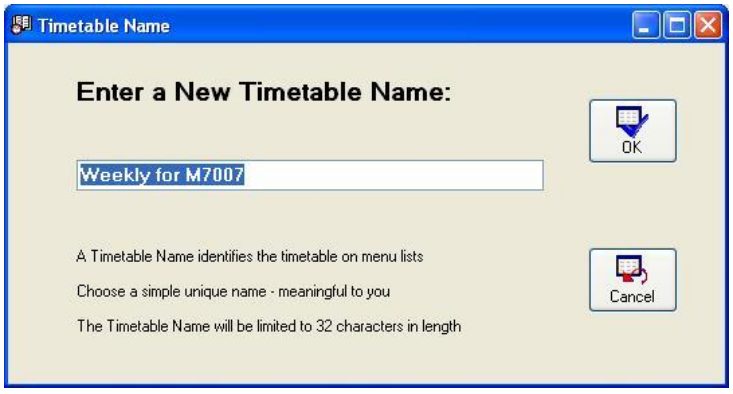
Save a Timetable

You can use the **Save As** (Figure 66) Button to save the timetable to your 'Managed Timetables' so you can use it in other settings later.

Figure 66: Save As

This asks you to give the timetable a name as shown in Figure 67:

Figure 67: New Timetable name


Timetable Name
Enter a New Timetable Name:
Weekly for M7007
OK
Cancel
A Timetable Name identifies the timetable on menu lists
Choose a simple unique name - meaningful to you
The Timetable Name will be limited to 32 characters in length

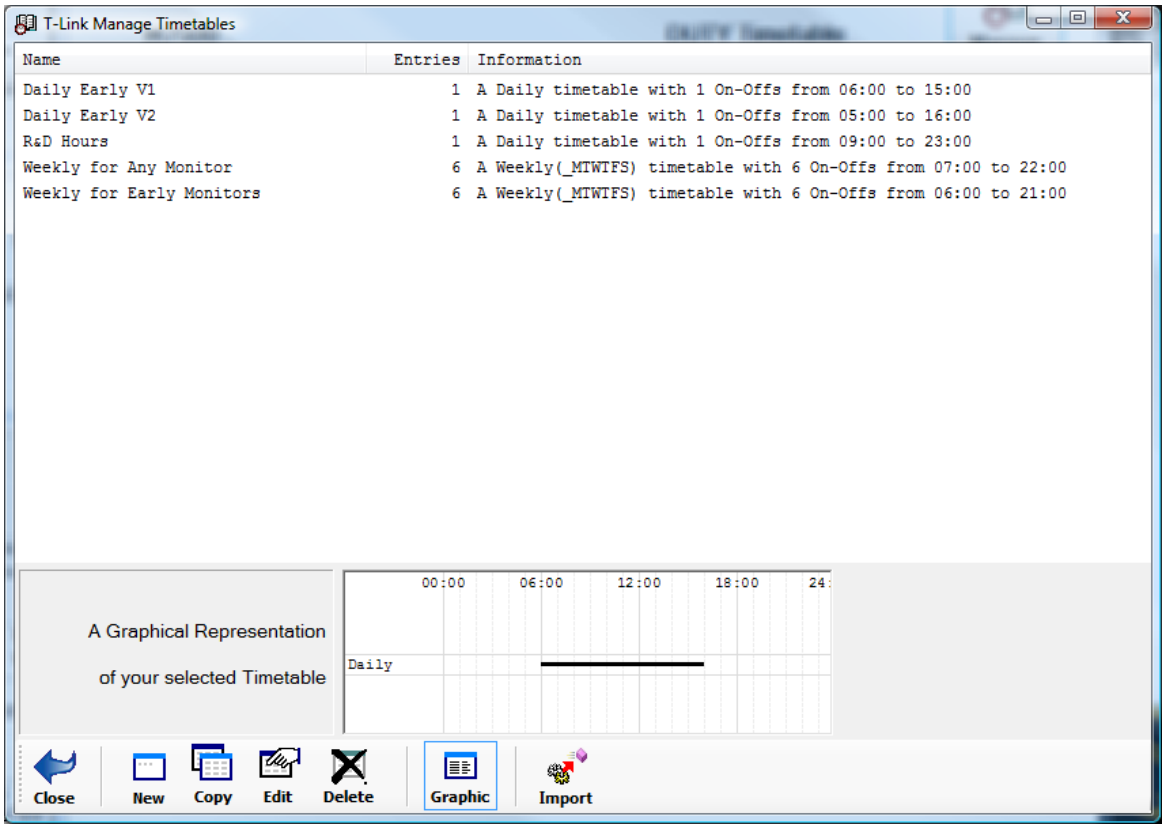
Manage Saved Timetables

Saved Timetables can be managed from the Manage Saved Timetables Button (Figure 68) on the Timetable Select Window:

Figure 68: Managed Saved Timetables Button

This will open the window shown in Figure 69:

Figure 69: Managed Saved Timetables Window



The toolbar in Figure 69 works like this:

Close	Closes the window and returns to the Timetable Select Window;
New	Create a new blank timetable;
Copy	Create a new timetable from a copy of the selected Timetable;
Edit	Edit the selected Timetable;
Delete	Delete the selected Timetable;
Graphic	Shows and hides the graphic display of the selected Timetable.
Import	Imports Timetables from another T-Link installation.

To Rename a Timetable

Press **Edit** to open the timetable for editing. Make any change to the timetable e.g. adjust a time (you can set it back again) to register a change in the Edit Window and the **Save As** Button (Figure 66) changes to a **New Name** button.

Figure 70 - Rename a Saved Timetable

Naming a Copied Timetable

The **Copy** button creates a timetable named "***Copy of* Copied Timetable Name**". Press the **Save As** Button (Figure 66) to save it under a new name.

Importing Timetables from an Old/Other T-Link Installation

T-Link saves the Managed Timetables in a data file called *MyTimetables.tda* in the *T-Link System folder* E.g.:

`C:\Users\Public\Documents\Texcel\T-Link\System\MyTimetables.tda`

See Where T-Link's Data is stored on your Computer

The file *MyTimetables.tda* can be copied into a new *T-Link System Folder* if there is not one there (***while T-Link is NOT Running!***), or else copy it to a convenient location (e.g. on a USB Stick) and Import it into your T-Link System as follows:

Press the **Import Button** above. Windows will open a File Open Dialog, which will only show Texcel Data Files (*.tda). Browse to your copied *MyTimetables.tda* and select it. All timetables in the Data File will be imported.

- ☞ **Timetables with the same name as one in your existing collection will be ignored**
- ☞ **Rename an existing timetable, to import one of the same name**

There are many types of Texcel Data files in the *T-Link System folder* containing e.g. SMS Phone numbers, Sensors …

The Timetable Import Process will ignore any Texcel Data files that do not contain Timetables.

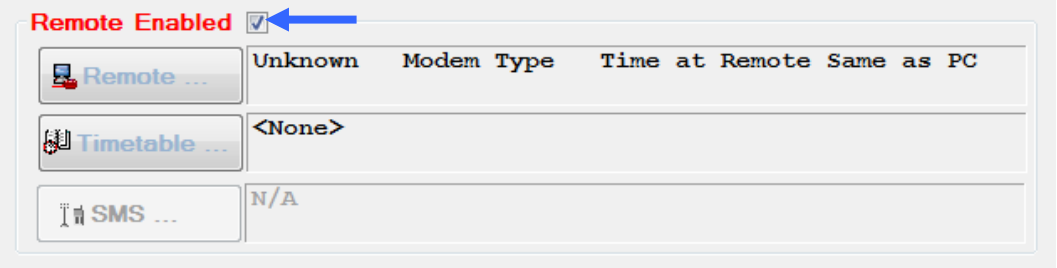
- ☞ **You cannot damage the system by selecting the wrong Texcel Data File**

Remote

☞ **This function is only available with ETM and ETM PI monitors**

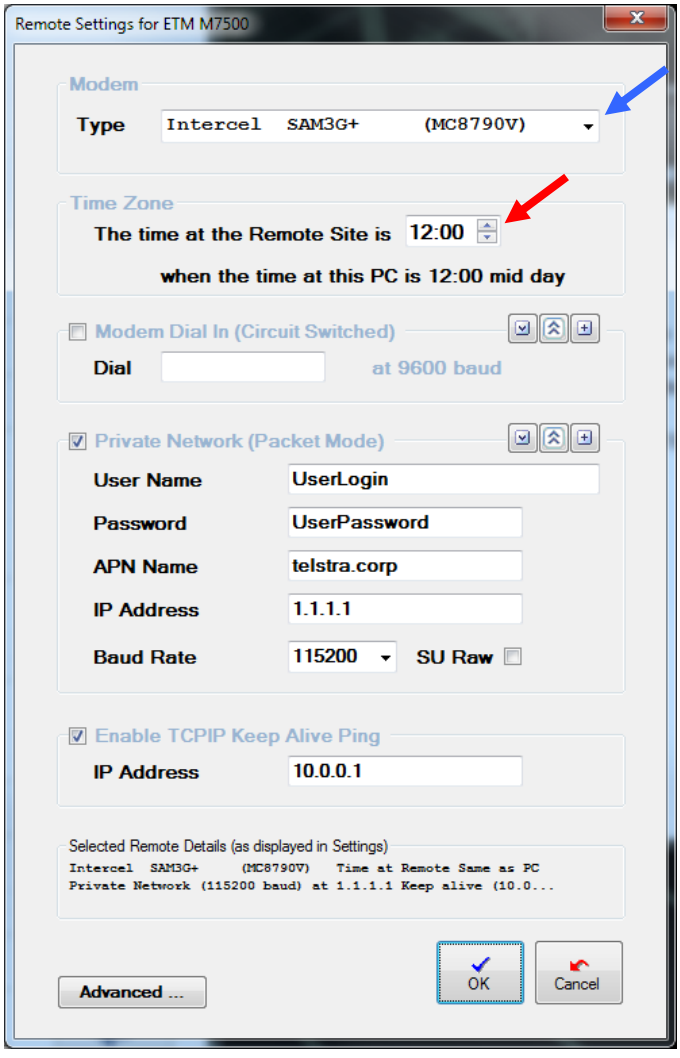
If there is a modem attached to the monitor, tick the **Remote Enabled** box indicated by the blue arrow in Figure 71 to gain access to **Remote, Timetable** and **SMS** windows:

Figure 71: Remote Enabled box



The **Remote** window allows you to change modem type and input a new data number if so required. (The data number in Figure 72 is for demonstration purposes only):

Figure 72: Remote Settings window



Modem: Select the modem ***Type*** from the drop box – click where the blue arrow points. The correct modem type will be defined by the modem you purchase from Texcel for your monitor.

The modem you select will enable the connection options valid for that modem

- ☞ **You must select the modem type actually in the ETM here.**

You must select either Modem Dial In or Private Network, and specify the parameters correctly, before the window will allow you to save it.

Time Zone:

If the monitor is in a different time zone, you need to set the time difference between your PC and the monitor. Change the time where the red arrow points.

This allows you to correctly synchronise the time on the monitor and also enables proper scheduled operations.

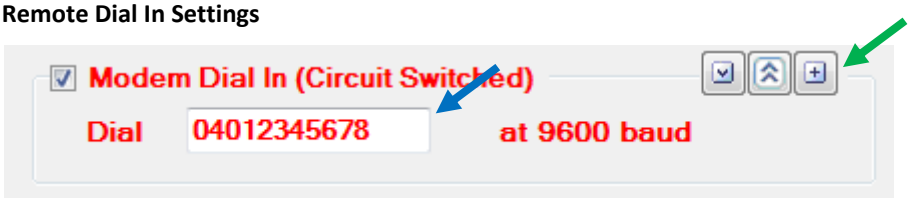
Note: If you connect to a monitor in a different Time Zone from the one in which it was configured (with T-Link 2), T-Link 2 will adjust this correctly.

- ☞ **Texcel monitors are not (yet) capable of managing daylight savings, and you must connect and synchronise the time after the daylight savings time shifts.**

Modem Dial In (Circuit Switched) – Connection Setup

The Modem Dial In settings are part of the Remote Settings Window.
See Figure 72 above.

Figure 73: Remote Dial In Settings



Modem Dial In (Circuit Switched) is available for nearly all modem types. The only information you need is the phone number, and this is defined by your phone service – either the 'Data Number' of your SIM or the dial-in number of your land-line. The baud rate is fixed for all except land-line connections.

The term Circuit Switched is often used for mobile data connections, using this Dial In mode.

- ☞ **Refer to Technical Bulletin TB0011 for instructions on setting up a Data Number on your SIM account in Australia**

Enter the phone number at the Blue Arrow in Figure 73.

Use the Phone Book to Remember your Phone Numbers

☞ **These number share the SMS Phone Book**

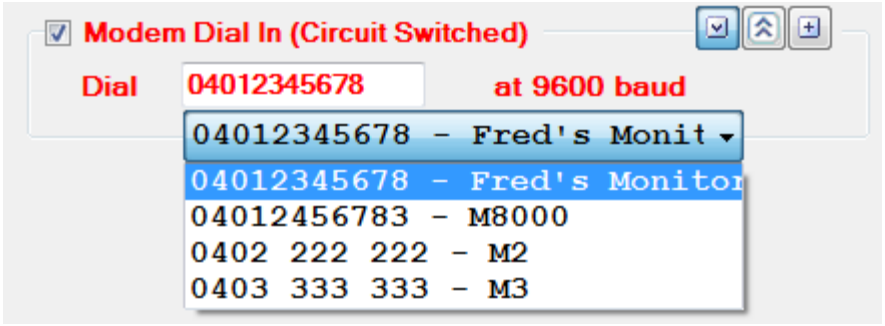
Use the buttons at the Green Arrow to access phone numbers saved into your phone book:

Select Number from Phone Book
See Figure 74 below

Manage Phone Book
See SMS Phone Book below

Add this Number to Phone Book
This adds the number at the green arrow above to the phone book.

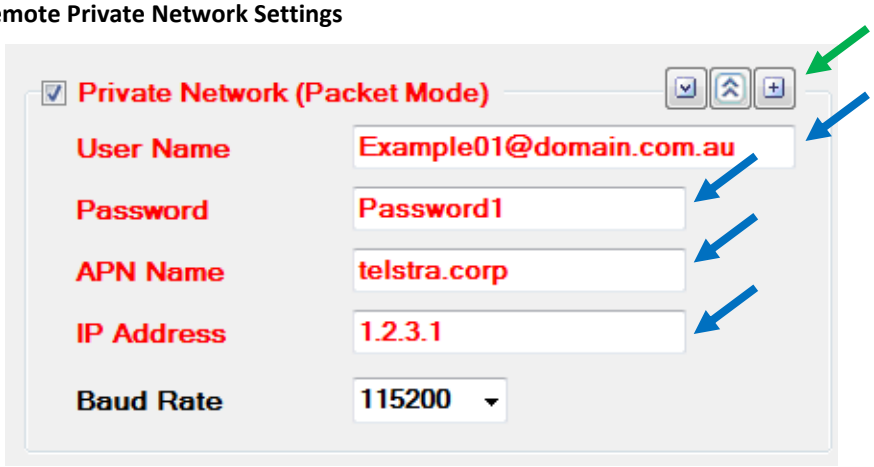
Figure 74 Remote Dial In - Select Number from Phone Book



Private Network (Packet Mode) – Connection Setup

The Private Network settings are part of the Remote Settings Window.
See Figure 72 above.

Figure 75: Remote Private Network Settings



Private Network (Packet Mode) is available for selected modem types.

The required information (at the blue arrows Figure 75 – **User Name**, **Password**, **APN Name** and **IP Address**) will be provided by your private network service provider.

The term Packet Mode is often used for internet protocol or TCP/IP data connections, used in Private Network communications.

☞ **See TB0012 (or Contact Texcel) for instructions on setting up a Private Network on your SIM account in Australia**

Use the IP Login Phone Book to Remember your Phone Numbers

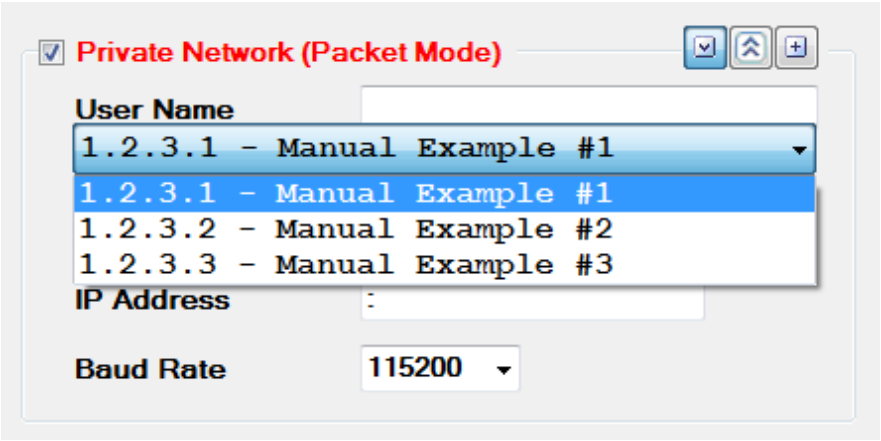
Use the buttons at the Green Arrow to access phone numbers saved into your phone book:

Select Number from IP Phone Book
See Figure 76 below

Manage IP Phone Book
See IP Login Phone Book below

Add number to Phone Book
This adds the number at the green arrow above to the phone book.

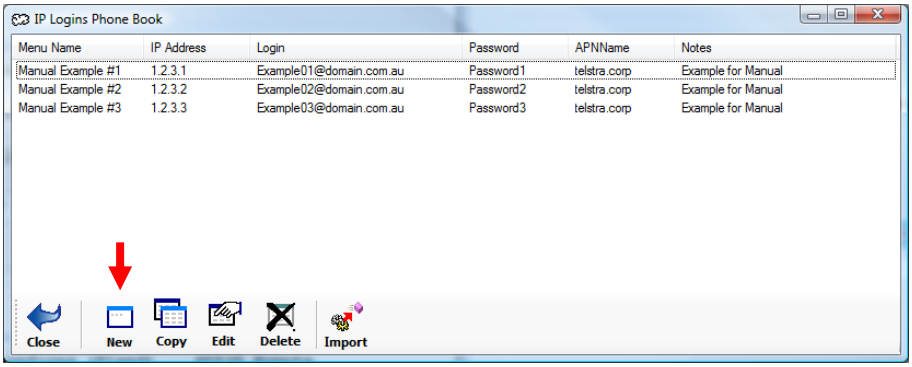
Figure 76 IP Login Phone Book - Select Number from Phone Book



IP Login Phone Book

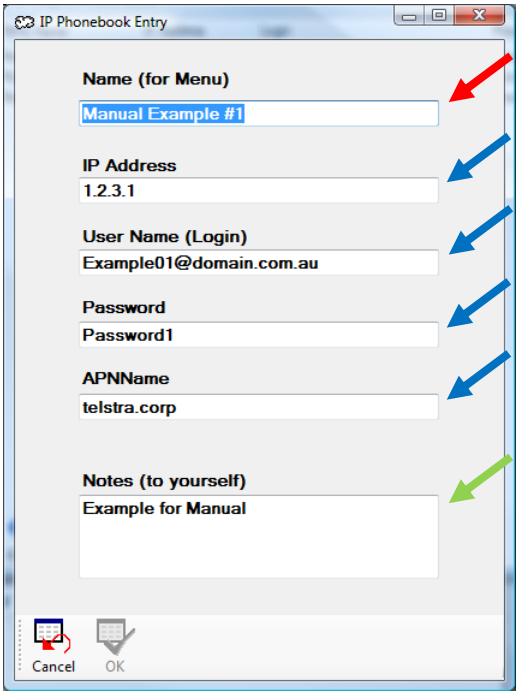
The only access to the IP Login Phonebook is from the Private Network Settings see Figure 75 above.

Figure 77 IP Logins Phone Book



To input Network Access details for the first time, or to add new IP Logins, press the **New** button indicated by the red arrow in Figure 77.

Figure 78 IP Login Phonebook Entry



The name at the Red Arrow is what you use to select the entry from the drop down menu at the Private network Settings Window – see Figure 76 above.

The information (at the blue arrows Figure 78 – **User Name**, **Password**, **APN Name** and **IP Address**) is all required, and will be provided by your private network service provider.

The Notes Field (green arrow in Figure 78) Is anything that helps you remember the entry.

Importing IP Login Phone Books from an Old/Other T-Link Installation

See Copying or Moving Managed Timetables and your Phone Books below.

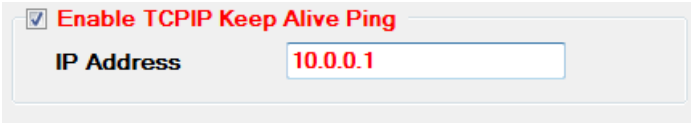
TCPIP Keep Alive Ping

Some packet mode modems allow a *Keep Alive Ping*. This is a method the modem uses to keep the link to the mobile network alive while it is waiting for your connection to come in.

- **Texcel recommends enabling this, if the option is available.**

This is part of Remote Setting Window - see Figure 72 above.

Figure 79 Enable TCPIP Keep Alive Ping



You must enter the IP address in IPV4 decimal-dot notation, as shown.

- **If you are using a Private Network, public web addresses will not work!**

If you are using a Private Network, you must contact your network provider/administrator to obtain a valid Keep Alive Ping Address. Most Private Networks will provide an address for this purpose.

Modem Timetable

The modem timetable editing is the same editing procedure as the **Duty Timetable** above.

The modem timetable specifies when the modem will be turned on to receive calls. You can only connect to your remote monitor during the On times of your remote Timetable.

There are no restrictions or required relationships between the modem timetable and the duty timetable in the monitor, it can be Off Duty (i.e. asleep) but keep the modem on and wake up when you call it.

- **Once remote is enabled, the settings require a modem Timetable. You will be unable to configure a monitor with remote settings until you have a valid modem timetable.**

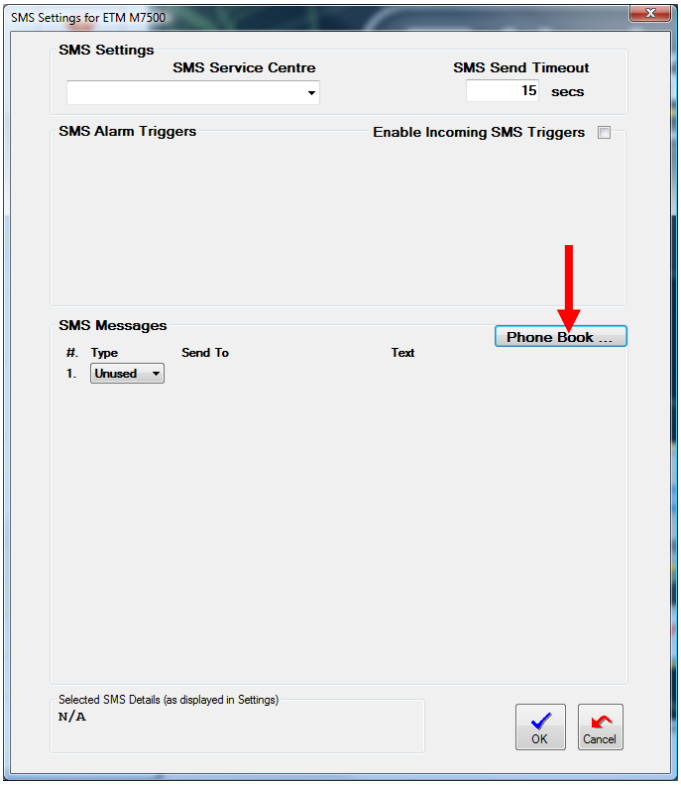
SMS

☞ **Disclaimer: Reliability and delay when sending SMS messages is network dependent; and when, or even whether, an SMS arrives is beyond Texcel's control.**

To enable the monitor to send SMS messages to nominated mobiles, press the button marked **SMS** in Figure 71.

This will initially open a blank **SMS Settings** Window, as in Figure 80:

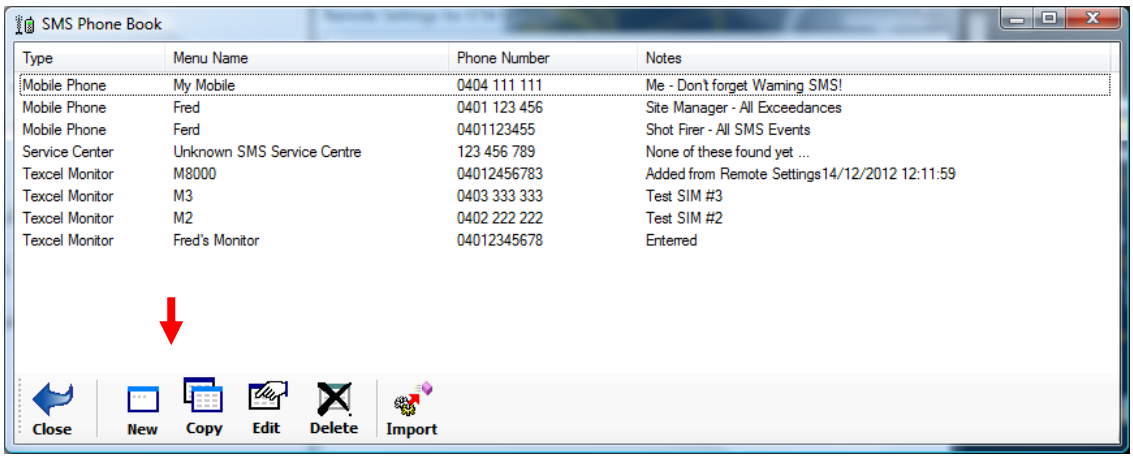
Figure 80: SMS Settings Window



SMS Phone Book

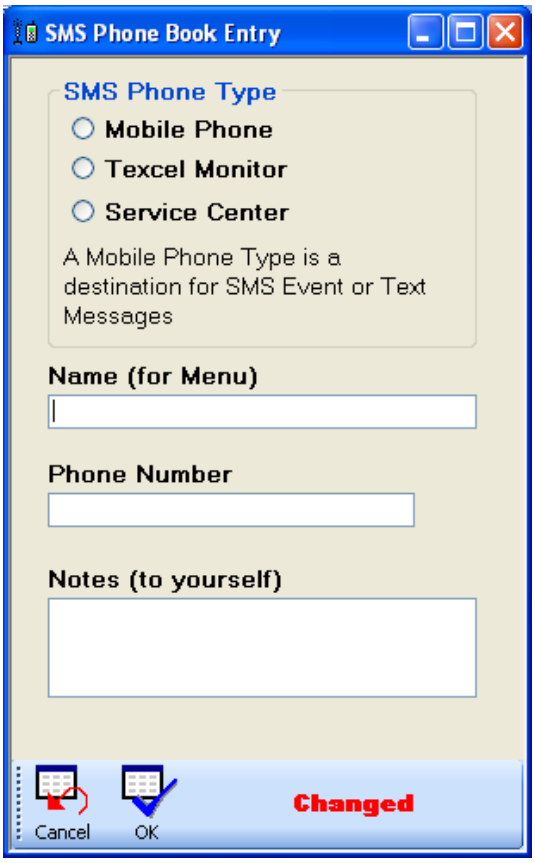
When you have opened the **SMS Settings,** the first thing is update the **Phone Book** with the relevant contact detail. Click the button at the red arrow in Figure 80 above:

Figure 81: SMS Phone Book



To input phone numbers and details for the first time, or to add new contacts, press the **New** button indicated by the red arrow in Figure 81.

Figure 82: Phone Book Entry



After pressing the **New**, **Copy** or **Edit** buttons in Figure 81, the **Phone Book Entry** page appears as in Figure 82.

SMS Phone Type
Allows you to choose what type of phone book entry this is and will affect where it appears on a menu. Most entries here will be Mobile Phone types:

Mobile Phone These appear on the **Send To** drop box for **Text** or **Event** message types as shown in Figure 83.

Texcel Monitor These appear on the **Send To** drop box for **Trigger** message type as shown in Figure 83. This is only for monitors not managed on this PC. Once you connect to a Remote Monitor from this PC, it will automatically appear in the **Send To** drop box.

Service Centre These will be added to those in the **SMS Service Centre** drop box shown in Figure 83.

Repeat the above process to add more contacts. When this page is completed, press **OK**.

Once all the contacts are correct and entered into the system, close the Phone Book. You will then return to the SMS Settings Window - Figure 80.

Importing SMS Phone Books from an Old/Other T-Link Installation

See Copying or Moving Managed Timetables and your Phone Books below.

SMS Messages Setup – Three Steps

Starting with the blank SMS Settings window (Figure 80), you have to complete at least three steps before the OK Button (red arrow) in Figure 83 below will be enabled:

1. Select an SMS Service Centre

See Step One – Set the Service Centre Number below.

2. Select Some Messages to Send

See Step Two – Setting up the SMS Messages below.

3. Specify a Valid Alarm Trigger

In the box at the green arrow in Figure 83 below, you must set a valid threshold if you are sending messages ***On a Triggered*** Event or ***In Continuous Logging***.

See Step Three – SMS Alarm Triggers below.

- ☞ **You can skip this if you are only send Warning SMS messages – See Figure 92**

SMS Send Timeout

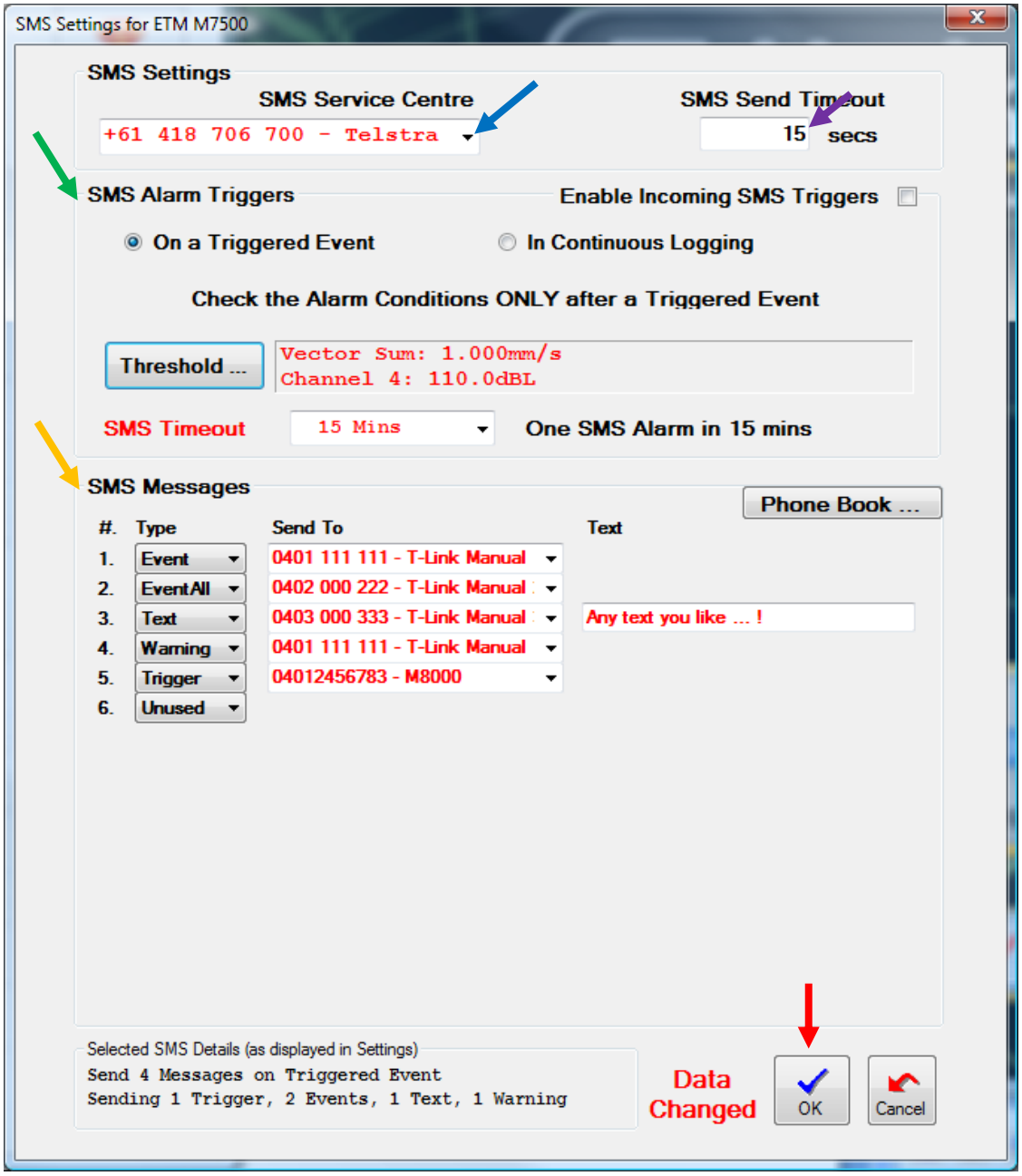
- ☞ **There is no need to adjust the SMS Send Timeout unless you have problems sending many SMS messages each event, or under Texcel Support advice.**

The **SMS Send Timeout** should normally be left at 15 seconds. See the purple arrow in Figure 83 below.

The timeout is the time the monitor waits after sending an SMS without an OK response from the network, before deciding that the message failed, and it should just send the next one – it only affects settings with multiple SMS messages.

This is an example of all possible SMS Message Types with SMS Alarms sent on a Triggered Event:

Figure 83: SMS Settings - Valid Triggered Event Alarms


SMS Settings for ETM M7500
SMS Settings
SMS Service Centre
+61 418 706 700 - Telstra
SMS Send Timeout
15 secs
SMS Alarm Triggers
Enable Incoming SMS Triggers
On a Triggered Event
In Continuous Logging
Check the Alarm Conditions ONLY after a Triggered Event
Threshold ...
Vector Sum: 1.000mm/s
Channel 4: 110.0dBL
SMS Timeout
15 Mins
One SMS Alarm in 15 mins
SMS Messages
Phone Book ...
#. Type Send To Text
1. Event 0401 111 111 - T-Link Manual
2. EventAll 0402 000 222 - T-Link Manual
3. Text 0403 000 333 - T-Link Manual
Any text you like ... !
4. Warning 0401 111 111 - T-Link Manual
5. Trigger 04012456783 - M8000
6. Unused
Selected SMS Details (as displayed in Settings)
Send 4 Messages on Triggered Event
Sending 1 Trigger, 2 Events, 1 Text, 1 Warning
Data Changed
OK
Cancel

Only when all the SMS Settings are all valid, will the ***OK button*** will be enabled (red arrow in Figure 83). Press this to confirm the SMS settings, and return to the Custom Settings Window – see Figure 93 below.

Step One – Set the Service Centre Number

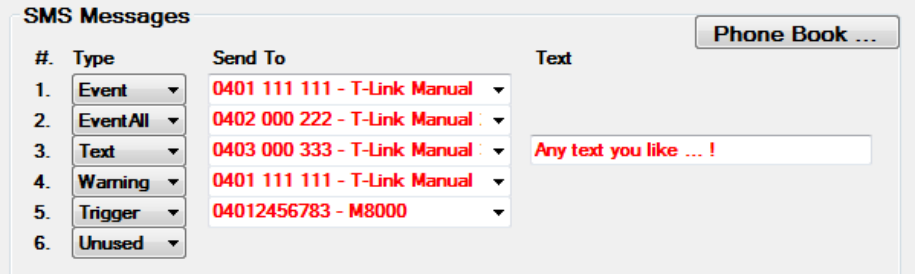
Select the **SMS Service Centre** at the blue arrow in Figure 83 above.

Select any of the entries for the service provider of the SIM account you have provided for the modem in this ETM.

Step Two – Setting up the SMS Messages

Figure 84 shows the types of SMS messages that can be sent.

Figure 84: Types of SMS Messages



Event/EventAll: The text of the message includes the monitor number, time and date of the event, the vector sum and the peak microphone reading. The ***Event Type*** includes the maximum peak of a triax, while ***EventAll Type*** includes all three peaks of the triax.

- **An Event Type SMS Alarm message is a notification only. It is not intended to be a definitive record of the event.**

- **Event Type SMS messages are NOT available in Continuous Logging 'All the Time' mode**

Text: The text of the message includes the monitor number, time and date of the threshold exceedance and the message typed in by user under **"Text"** in Figure 84.

Trigger: Sends the text "TRIGGER" to another Texcel Monitor, causing it to trigger if **Enable Incoming SMS Trigger** (see Figure 85 below) is enabled on that other monitor.

The above four message types are sent on an Alarm Trigger, as set in Step Three – SMS Alarm Triggers.

- **ALL messages of these types on the list are sent, in the order shown, every time the SMS Alarm Trigger threshold is exceeded.**

The ***Warning Type*** is sent when Low Battery is detected on a Duty Cycle, completely independently of the SMS Alarm Trigger.

Warning: This phone number is used independently of event monitoring. The Monitor uses this number to send Low Battery warnings, which the monitor checks a few times a day.

- **The maximum number of SMS messages that be specified is 16.**

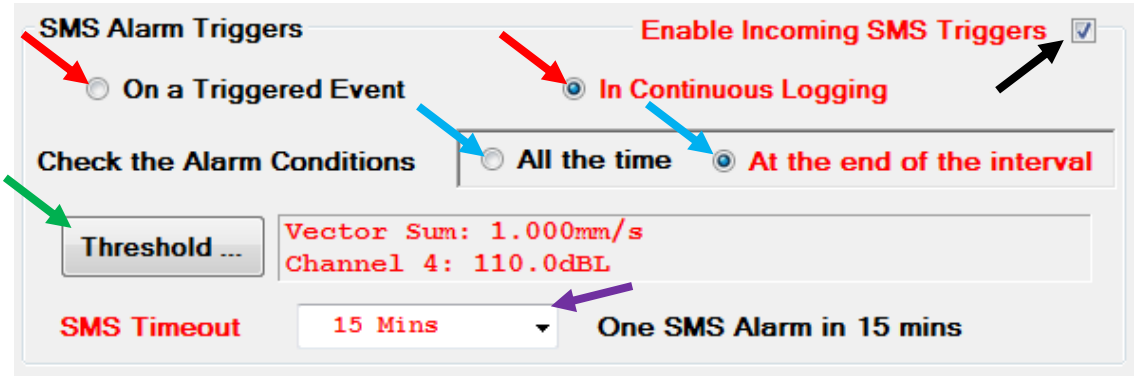
Step Three – SMS Alarm Triggers

The SMS Alarm Triggers define when and whether to send the specified SMS Alarm Type Messages – ***Event***, ***EventAll*** and ***Text Type*** messages.

This has no effect and is not needed for ***Warning Type*** SMS messages.

☞ **You must select at least one outgoing SMS Message Type (see Figure 84 below) before these SMS setup settings are visible.**

Figure 85: SMS Alarm Triggers



First select (at the red arrows in Figure 85 above) whether you want the SMS Alarms to occur based ***On a Triggered Event*** result, or ***In Continuous Logging***.

☞ **If either of these is disabled, that is because they are disabled in the main settings – see Continuous Logging and/or Triggered Events above.**

On a Triggered Event: The threshold conditions are only checked when an event is triggered, by considering the results of the event, at the end of the event.

In Continuous Logging: The threshold conditions are based on the results of Continuous Logging.

There are two options available in Continuous Logging SMS Alarm messages – see the blue arrows in Figure 85 above:

All the time: The threshold is checked all the time, and the alarm can occur at any time within the Continuous Logging Interval.

Because no event data is available in the middle of a Continuous Interval:

☞ **The Event and EventAll Type SMS Alarm messages are not available in 'All the time' mode**

At the end of the interval: The threshold is checked at the end of each continuous interval, when the Continuous Logging Event details are known and being saved.

☞ **End of Interval Mode will be disabled if your firmware is too old**

Changing Settings can make the SMS Messages Invalid

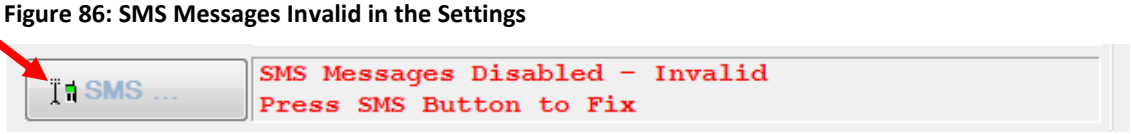
If SMS Alarm Trigger is set to ***In Continuous Logging*** and you ***disable Continuous Logging*** in the Settings, all the SMS Messages are invalid.

Similarly, if SMS Alarm Trigger is set to ***On a Triggered Event*** and you ***disable Triggered Events*** in the Settings, all the SMS Messages are invalid.

See Enabling Continuous Logging AND/OR Triggered Events above.

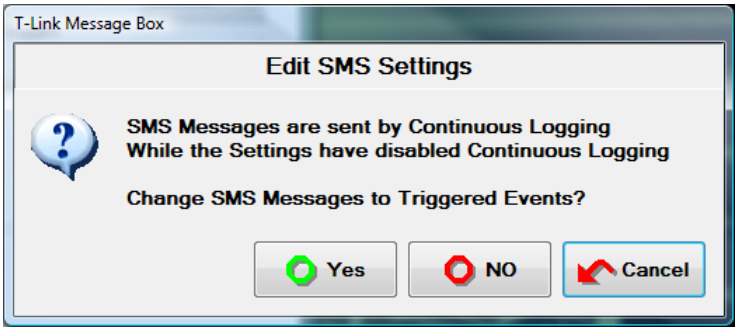
In this case the SMS messages are invalidated and this is shown under SMS details in the Remote Enabled box (Figure 71 above) like this:

Figure 86: SMS Messages Invalid in the Settings



Click the SMS Button at the red arrow in Figure 86 above and a message like this will be displayed (in this case they were set to ***In Continuous Logging***):

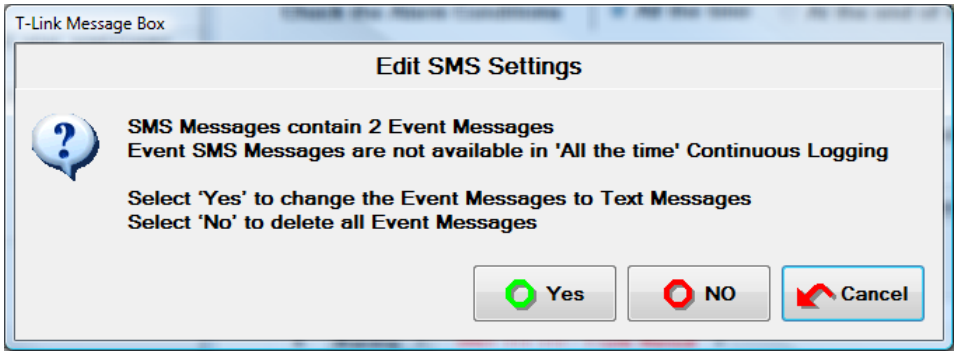
Figure 87: SMS Messages Invalid - Change to Triggered Events Question



Event (and EventAll) Message Types may also be invalid

Because Event and EventAll Type SMS Messages are not available in ***All the time*** Continuous Logging SMS Alarm Triggers, switching to ***All the time*** mode may show this self-explanatory error:

Figure 88: SMS Messages Invalid in All the time Continuous Logging


T-Link Message Box
Edit SMS Settings
SMS Messages contain 2 Event Messages
Event SMS Messages are not available in 'All the time' Continuous Logging
Select 'Yes' to change the Event Messages to Text Messages
Select 'No' to delete all Event Messages
Yes
NO
Cancel

SMS Alarm Timeout

The ***SMS Timeout*** in the ***SMS Alarm Triggers*** box (Figure 85 above) acts as an Alarm Timeout.

This sets the time from when a set of SMS messages has been sent, until the next set will be allowed. Select from the drop down menu at the purple arrow in Figure 85 above.

The ***SMS Timeout*** prevents a continuous stream of SMS messages. The value **Duty** means it will only send one SMS message in each modem duty cycle (i.e. it won't send another one till it goes to sleep and wakes up again).

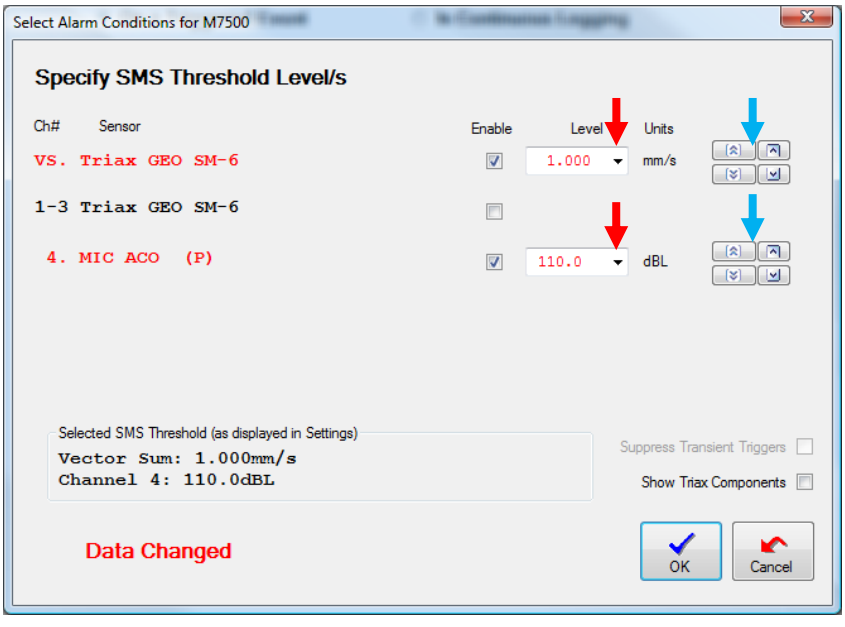
☞ **The Timeout starts after the last specified SMS has been sent**

Note: Sending an SMS can take many seconds – 6-10 seconds per message is not an unrealistic estimate. The actual time is network dependent. So if you are sending 10 SMS Alarm messages, just sending them can take more than a minute, and even more than two minutes!

Set the SMS Alarm Trigger Threshold Levels

Threshold… Button: By pressing the Threshold button (at the green arrow in Figure 83 above) you set the SMS Alarm trigger conditions for when the SMS messages will be sent out.

Figure 89: SMS Alarm Thresholds



Setting **SMS Trigger Threshold** is very like that of the Alarm Beacon (See Figure 53 above) and the Triggered Event Thresholds (Figure 45 above).

This window allows you to choose both the trigger source (sensor/channel) and the trigger level. One or more sensors/channels may be used for the trigger source.

To select trigger source/s, tick the boxes under the **Enable** heading, beside the source/s you would like to use.

Use the drop boxes (click where red arrows point in Figure 89 above) to set a level or use the up-down arrows (blue arrows point in Figure 89 above) to adjust the level.

Figure 90 shows the up-down arrows and how they function

Figure 90: A single arrow for fine (small steps) and a double arrow for coarse (large steps)

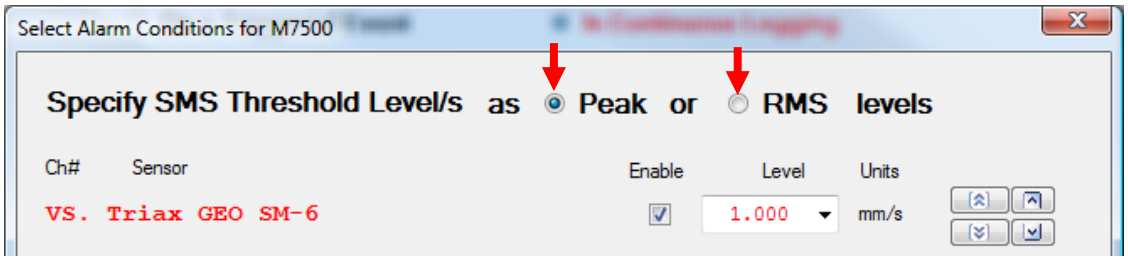
RMS or Peak Levels

In Continuous Logging End of Interval Mode, the Alarm Trigger threshold can be set to apply to Peak or RMS levels.

☞ **All other thresholds in T-Link apply to Peak Levels**

The top of the SMS Alarm Thresholds window (Figure 89 above) provides the additional options shown at the red arrows in Figure 91 here:

Figure 91: Continuous End of Interval SMS Alarm Thresholds as RMS or Peak



Enable Incoming SMS Trigger

Tick the box at the black arrow in Figure 85 above to **Enable Incoming SMS Trigger**s. This will allow this ETM to be triggered by an incoming SMS message containing the text 'TRIGGER'. Use this if this monitor is to be triggered by another remote monitor, or from a mobile phone.

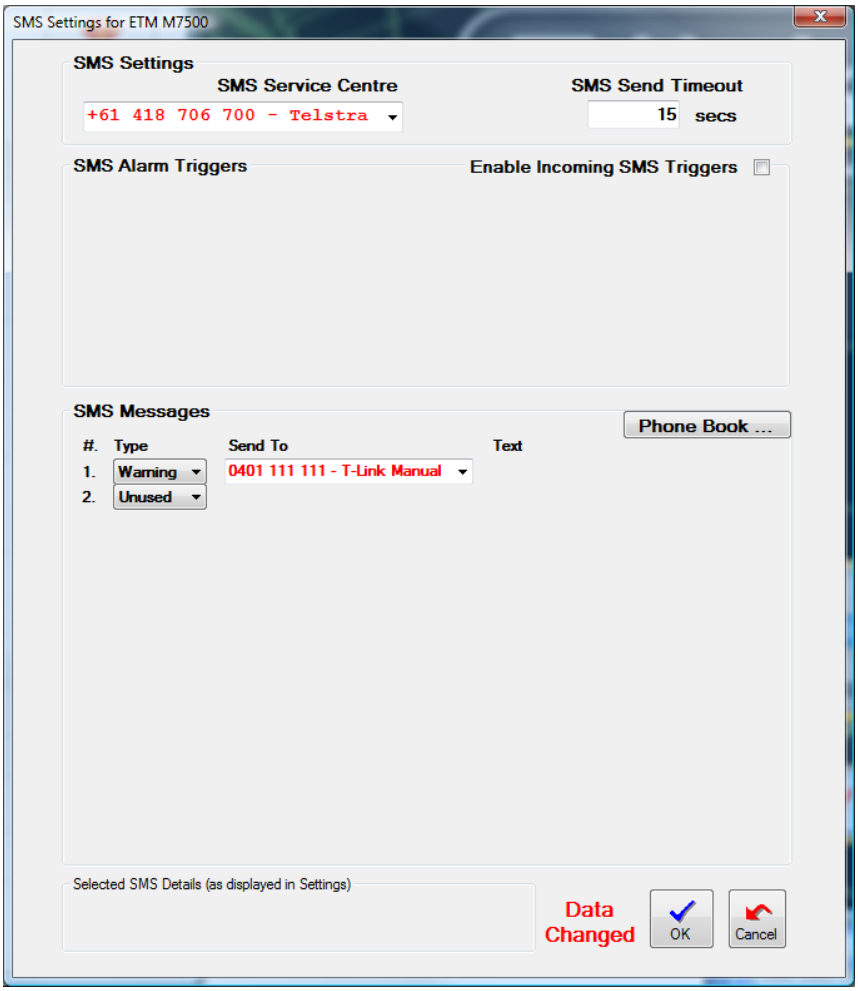
Warning SMS Messages

T-Link 2 with firmware version 2.2 (or greater) introduces the Warning SMS Message. The monitor checks the system battery voltage periodically, and sends a Low Battery warning, with the Monitor number and an urgency rating.

This check is performed entirely independently of any alarm threshold events.

The warning message can be used with other SMS message types, or as the only SMS message type in the settings:

Figure 92: SMS Settings - Warning SMS Only



☞ **If only Warning SMS Messages are being used, no threshold settings are required.**

The warning SMS can be sent to more than one phone number.

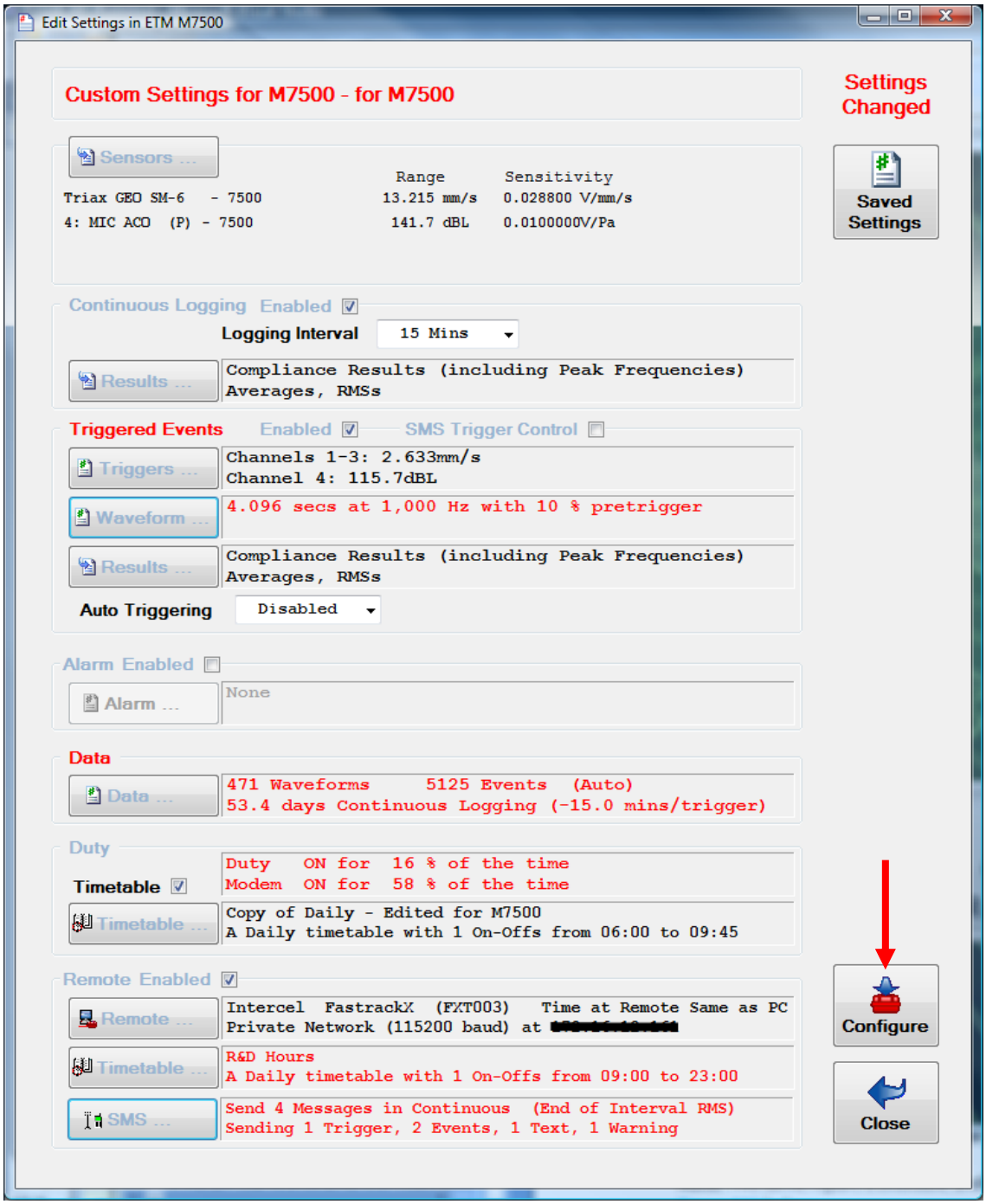
Technical Bulletin TB0013 - ETM SMS Capabilities

See *Technical Bulletin – TB0013 - ETM SMS* for Remote Control and Remote Information Access abilities of your ETM.

Configuring the Monitor

Once you have selected the settings required, and they are valid, the **Configure** button (Figure 93) will be enabled.

Figure 93: ETM Settings window with Remote and Alarm

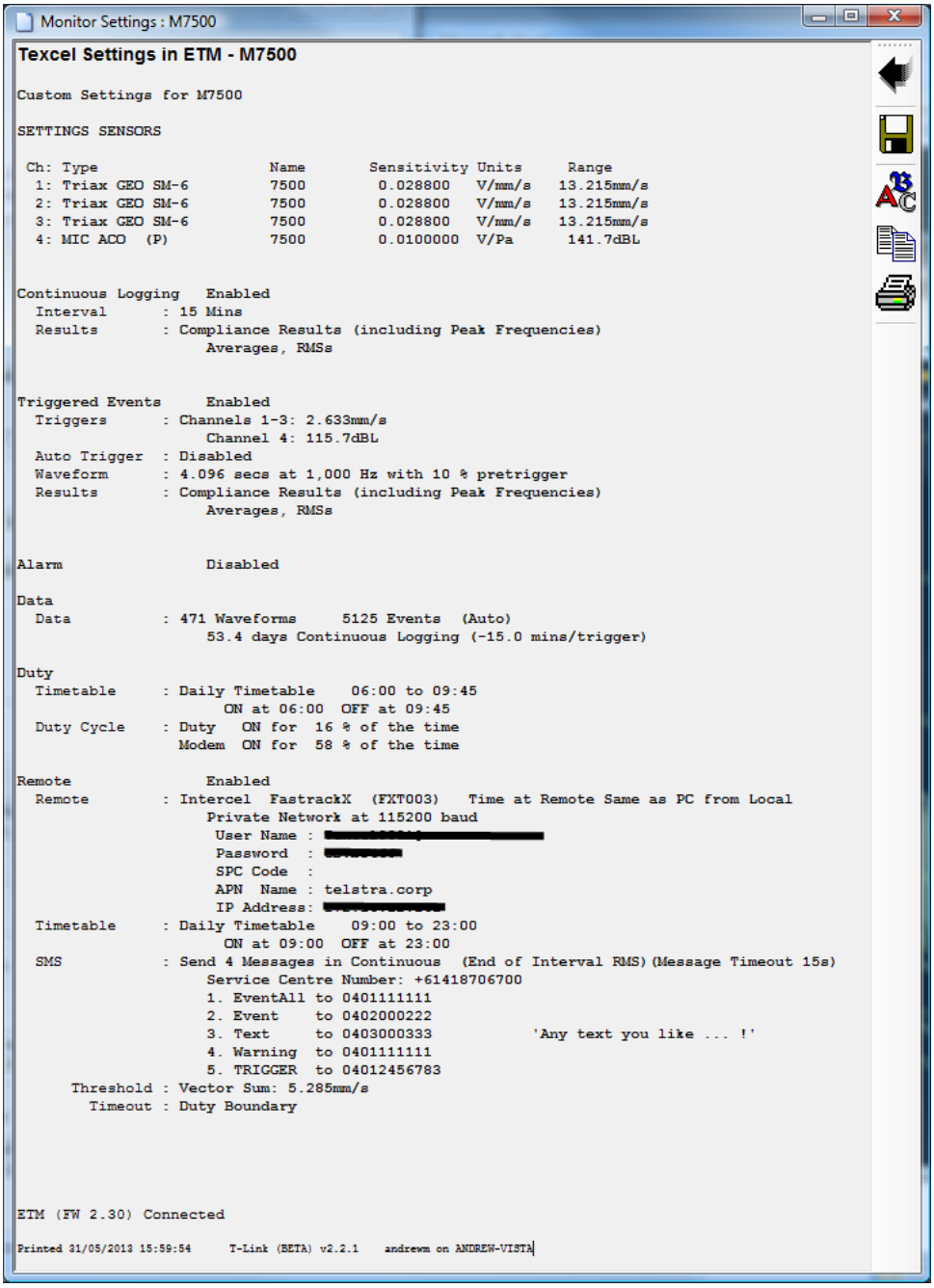


Press the Configure button (red arrow in Error! Reference source not found. above) o configure the monitor with the selected settings.

Configured Settings Displayed to Confirm

After the monitor is configured, a report of the setting details is displayed for confirmation and/or printing (see Figure 94), which allows you to save or print out the report for future reference.

Figure 94: An ETM Settings Report


Monitor Settings : M7500
Texcel Settings in ETM - M7500
Custom Settings for M7500
SETTINGS SENSORS
Ch: Type Name Sensitivity Units Range
1: Triax GEO SM-6 7500 0.028800 V/mm/s 13.215mm/s
2: Triax GEO SM-6 7500 0.028800 V/mm/s 13.215mm/s
3: Triax GEO SM-6 7500 0.028800 V/mm/s 13.215mm/s
4: MIC ACO (P) 7500 0.0100000 V/Pa 141.7dBL
Continuous Logging Enabled
Interval : 15 Mins
Results : Compliance Results (including Peak Frequencies)
Averages, RMSs
Triggered Events Enabled
Triggers : Channels 1-3: 2.633mm/s
Channel 4: 115.7dBL
Auto Trigger : Disabled
Waveform : 4.096 secs at 1,000 Hz with 10 % pretrigger
Results : Compliance Results (including Peak Frequencies)
Averages, RMSs
Alarm Disabled
Data
Data : 471 Waveforms 5125 Events (Auto)
53.4 days Continuous Logging (-15.0 mins/trigger)
Duty
Timetable : Daily Timetable 06:00 to 09:45
ON at 06:00 OFF at 09:45
Duty Cycle : Duty ON for 16 % of the time
Modem ON for 58 % of the time
Remote Enabled
Remote : Intercel FastrackX (FXT003) Time at Remote Same as PC from Local
Private Network at 115200 baud
User Name : [redacted]
Password : [redacted]
SPC Code :
APN Name : telstra.corp
IP Address: [redacted]
Timetable : Daily Timetable 09:00 to 23:00
ON at 09:00 OFF at 23:00
SMS : Send 4 Messages in Continuous (End of Interval RMS) (Message Timeout 15s)
Service Centre Number: +61418706700
1. EventAll to 0401111111
2. Event to 0402000222
3. Text to 0403000333 'Any text you like ... !'
4. Warning to 0401111111
5. TRIGGER to 04012456783
Threshold : Vector Sum: 5.285mm/s
Timeout : Duty Boundary
ETM (FW 2.30) Connected
Printed 31/05/2013 15:59:54 T-Link (BETA) v2.2.1 andrewm on ANDREW-VISTA

From this window, you can save the report to disk, copy the formatted report to paste into another document, or print to the default printer.
Button operation is explained above at Texcel Settings Display.

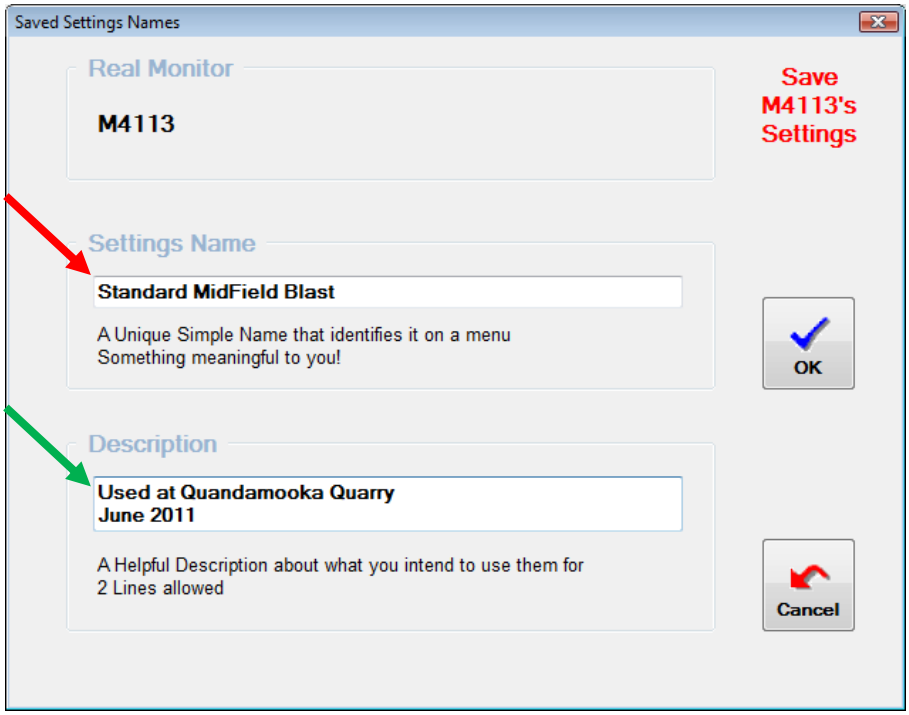
Note: This same report is available under the Monitor Reports at any time – see Figure 137 below.

After you close the settings display, T-Link offers you the opportunity to save your custom settings for later re-use, see Saved Settings below.

Saving your Custom Settings

This window is displayed. Press Cancel to skip saving the settings, and return to T-Link Main.

Figure 95: Save your Custom Settings after Configure



Type a Settings Name (at the red arrow Figure 95), that identifies the settings for you. The name is saved with the settings, and appears on the Saved Settings List when you later want to use it – see Figure 98 below.

You must also type a description (at the green arrow Figure 95), before you can save the settings. The description also appears on the Saved Settings list, with the two lines separated by a dash. Two lines are not required. The above names are shown in Figure 98 below.

☞ **If you skip this step, you can still use the Create Button at the Saved Settings List to create a Saved Settings from the current settings in your monitor.**

The Bump Test

If possible Capture an event on your desktop by going duty and 'bumping the geophone' to confirm expected operation.

☞ **This is particularly important for testing an ETM being set up for remote operation – you can verify modem initialisation and ALL SMS MESSAGES**

Saved Settings

Access the Saved Settings to Manage them

- ☞ **Ctrl + Click Custom Settings for Quick access to Saved Settings**

Figure 96 Custom Settings Button on T-Link Main Window

Access the Settings from Custom Settings to Select one

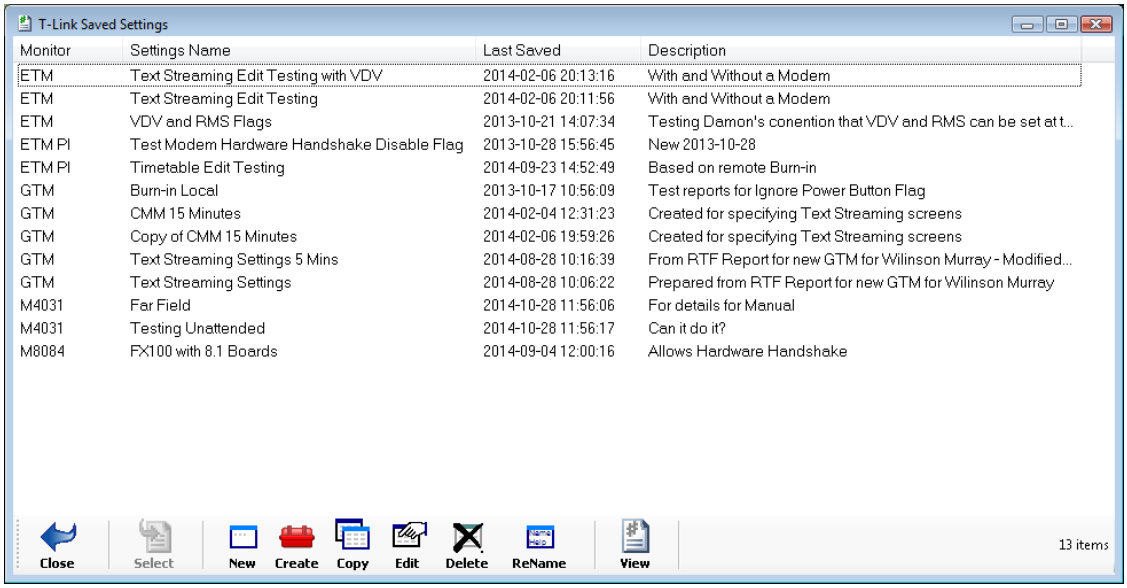
You can also access Saved Settings on the Custom Settings Edit Window (See Figure 39 for a GTM and Figure 93 for an ETM example):

Figure 97: Saved Settings Button

- ☞ **This button will enable the Select Button on the Saved Settings List**

Either way it shows the Saved Settings available in the system:

Figure 98: Saved Settings List



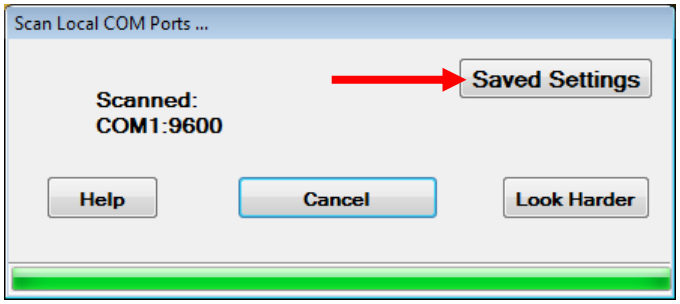
The Saved Settings List presents all the settings saved in your T-Link installation, and provides a toolbar which allows you to *Select*, *Copy*, *Edit*, *Delete*, *Rename* or *View* the highlighted settings. You can also make a *New* settings from scratch or *Create* one from the settings in a monitor you have recently connected to.

Saved Settings are saved under the T-Link System Folder – see How T-Link's Data is stored on your Computer.

- ☞ **The Saved Settings files are transferrable between computers – just copy the files to the same folder on the other computer.**

You can also Access the Saved Settings from the Look Harder Window

Figure 99: Access Saved Settings from the Look Harder Window



Press the Saved Settings button (at the red arrow in Figure 99) to access the same Saved Settings List (Figure 98 above). The only difference is that the Select Button is disabled.

Sorting the Saved Settings List

Clicking on the headings of the lists will sort the list by that column.
Clicking again will reverse the sort order.
When first shown, they are sorted by monitor.

Saved Settings List Toolbar

Select

If you go to the Saved Settings List from the Custom Settings, highlight a settings, and press this ***Select Button***, the highlighted settings will be selected into the Custom Settings window, for use your monitor.

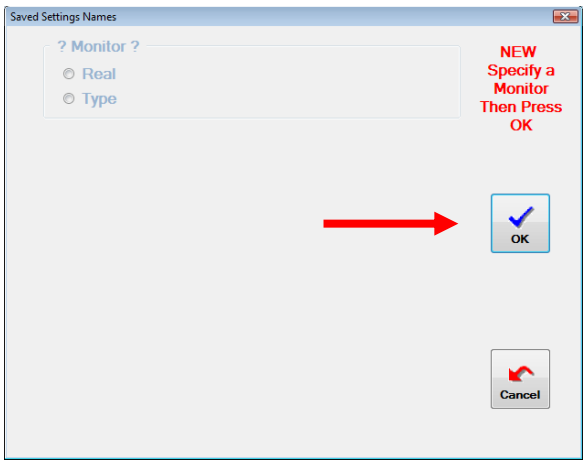
☞ **This is the intention of Saved Settings, to allow quick re-use.**

New

The ***New Button*** allows you to create a settings using one of the Texcel Settings as a template.

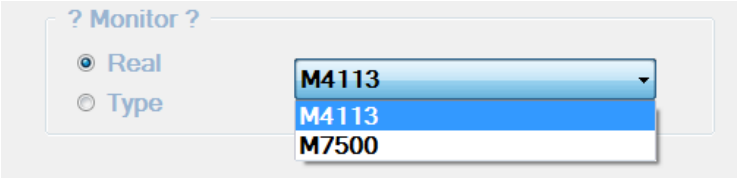
The first thing the new settings requires is a monitor type to base the settings on.
When you press the ***New Button*** you are presented with this window:

Figure 100: New Settings - Real or Type



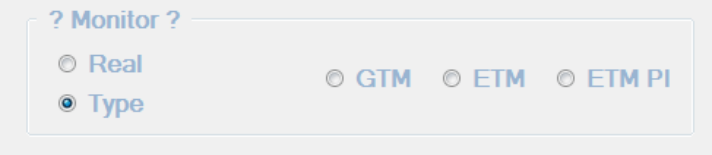
Real: allows you to select from a list of 'real' monitors in your T-Link system:

Figure 101: New Settings - Select Real Monitor



Type: allows you to base a new settings on a monitor type you may or may not own:

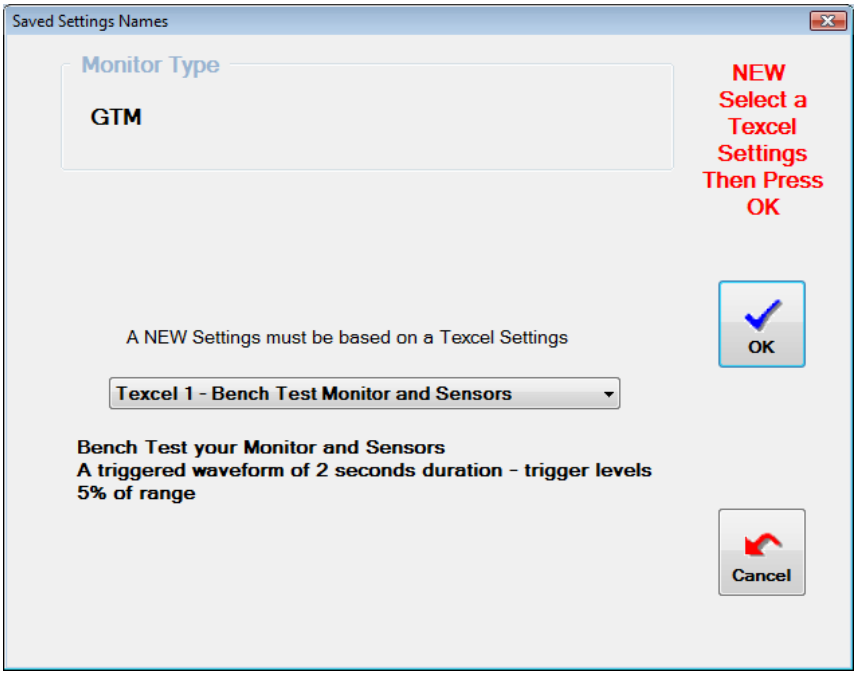
Figure 102: New Settings - Specify Type of Monitor



☞ **The Type option allows you to edit settings in a T-Link before you connect to any actual T-Link monitor.**

Press the ***OK Button*** (red arrow in Figure 100) to progress to selecting the Texcel Settings on which to base your new settings:

Figure 103: New Settings - Select Texcel Settings Template



The blocking messages for Texcel Settings as in Texcel Settings not available above are displayed here, but because these are inherently Custom Settings, a selection that uses a different monitor's sensors will be allowed, but display a warning.

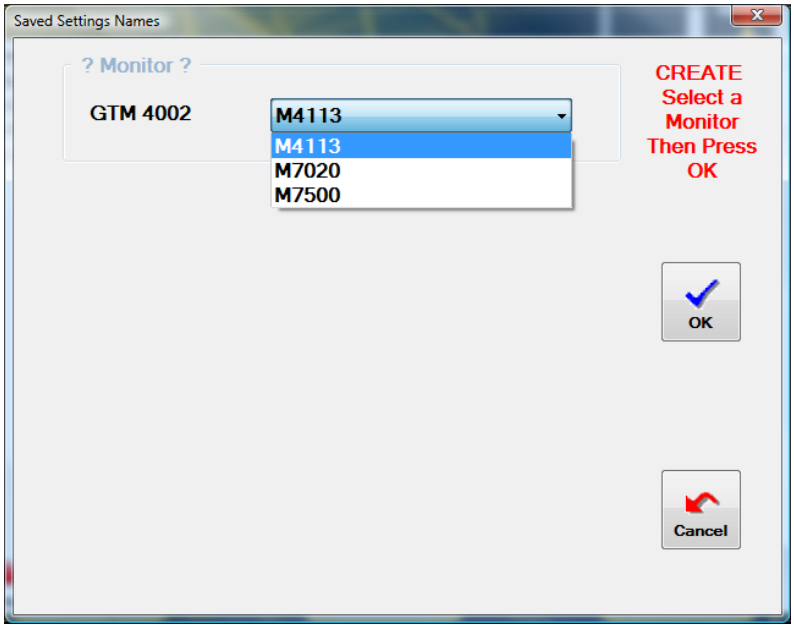
Press the ***OK Button*** to select the Texcel Settings and specify a Name and Description for your new settings. This uses the same window used to Save your Settings after you Configure your monitor – see Saving your Custom Settings above.

Create

The ***Create Button*** enables you to create a Saved Settings from the settings currently in one of your monitors.

When you press the Create Button, you are presented with a selection of all the monitors you have connected to from this T-Link:

Figure 104: Select a Monitor to Create a Saved Settings

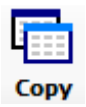


Press the ***OK Button*** to select the Monitor and specify a Name and Description for your new settings. This uses the same window used to Save your Settings after you Configure your monitor – see Saving your Custom Settings above.

Copy

The ***Copy Button*** copies the settings highlighted on the Saved Settings List, and allows you to edit that settings in the Saved Settings Edit Window, after giving the Copied settings a Name and Description on the same window used to Save your Settings after you Configure your monitor – see Saving your Custom Settings above.

Edit



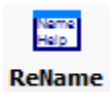
The ***Edit Button*** opens the settings highlighted on the Saved Settings List and allows you to edit that settings in the Saved Settings Edit Window.

Delete

The ***Delete Button*** deletes the settings highlighted on the Saved Settings List from the list, and deletes the file from your disk.

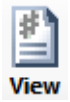
☞ **You will be asked to confirm the deletion.**

Rename



The ***Rename Button*** opens the Name and Description Window, and allows you to rename and/or edit the description of the settings highlighted on the Saved Settings List.

View

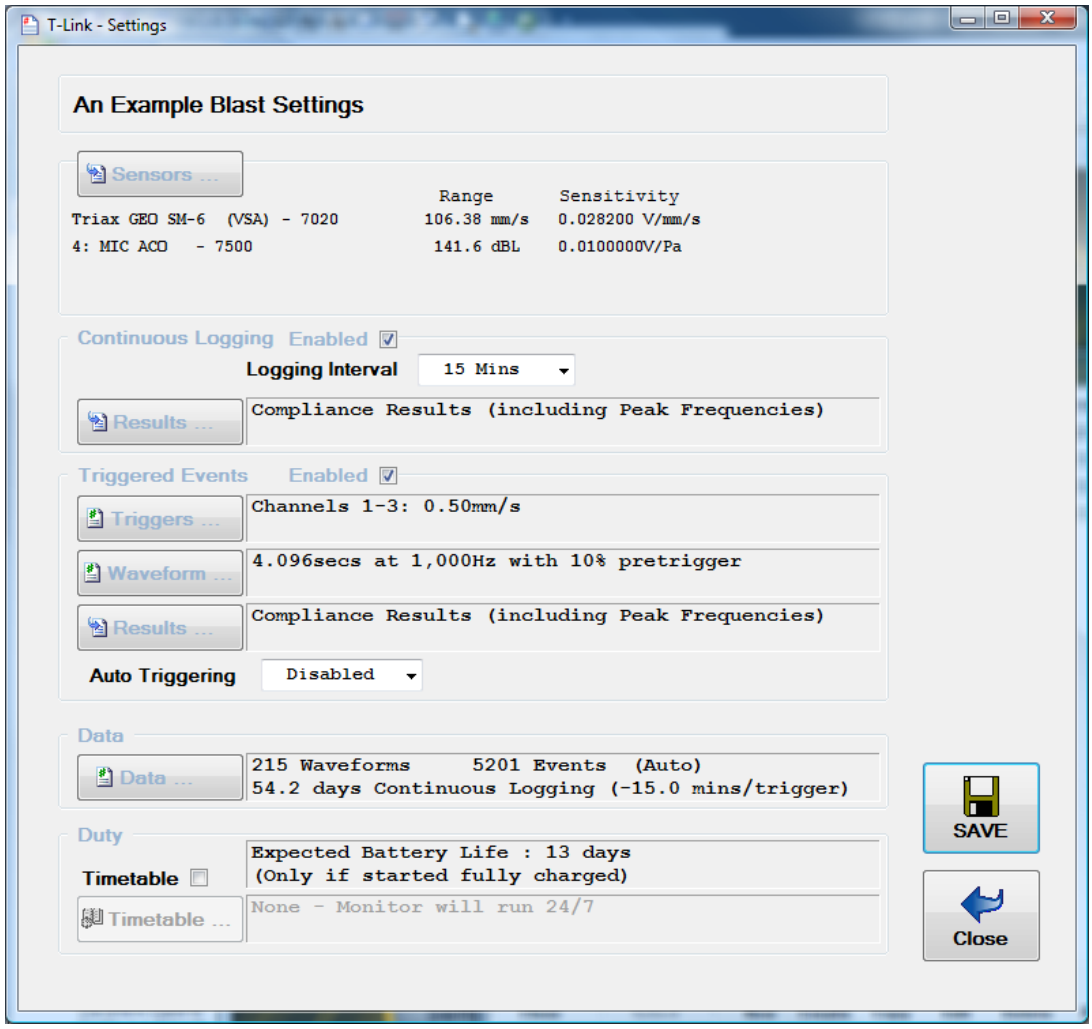


The ***View Button*** opens the Settings highlighted on the Saved Settings List in the Settings Report Window – see Figure 94: An ETM Settings Report or Texcel Settings Display above.

Saved Settings Edit Window

The Saved Settings Edit Window looks and operates the same way as the Custom Settings Edit Window, except that the Configure Button is replaced by a ***Save Button***.

Figure 105: Saved Settings Edit Window



Press the ***Save Button*** to save the settings to your Saved Settings List.

☞ **You must press Save once for New or Created Settings, even if no changes are recorded, to add the settings to the list.**

Retrieve Data

To retrieve the results from your monitor, press the **Retrieve** button (shown below in Figure 106) on the ***T-Link Main Window*** (see Figure 23 above).

Figure 106: Retrieve button

T-Link's data retrieval is as easy as 1,2,3

1. Select Data

Here you decide if you want to:

- Retrieve all events and waveforms to the same location
- Select which waveforms and which locations

☞ **If you want to retrieve all the data – do nothing – that's already selected**

See Select which waveforms and which locations for why you might want to select.

2. Select Events (and select Site and Location Names)

The main thing here is to set right the Site and Location, where the results were monitored. See Sites and Locations.

☞ **These Site and Location names will appear on all your reports**

If you are selecting which events and which waveforms, you can select different sites/locations for different monitoring sessions.

3. Report

T-Link allows you to generate a report automatically as you retrieve the data if you want to.

The report options available depend on the type of data you are retrieving.

See Retrieve and Report options

☞ **Then press the Retrieve Button to Retrieve (and Report) your selections**

Figure 107: Retrieve Button - Bottom right of the Retrieve Window

Data Types – Results are Events and/or Waveforms

T-Link's data contains your results in the form of events and waveforms.

Events are Continuous or Triggered

For explanations of the difference see Continuous Logging and/or Triggered Events above.

Waveforms are available for Triggered Events Only

The figures below show what the retrieve window looks like with the three possible sets of results – also showing available report types:

If your settings do Continuous Logging ONLY:
Figure 108 - Continuous Events Only

If your settings have Triggered Events ONLY:
Figure 109 - Triggered Events and Waveforms

T-Link does allow both Continuous Logging and Triggered Events at the same time:
Figure 110 - Both Continuous and Triggered Events and Waveforms

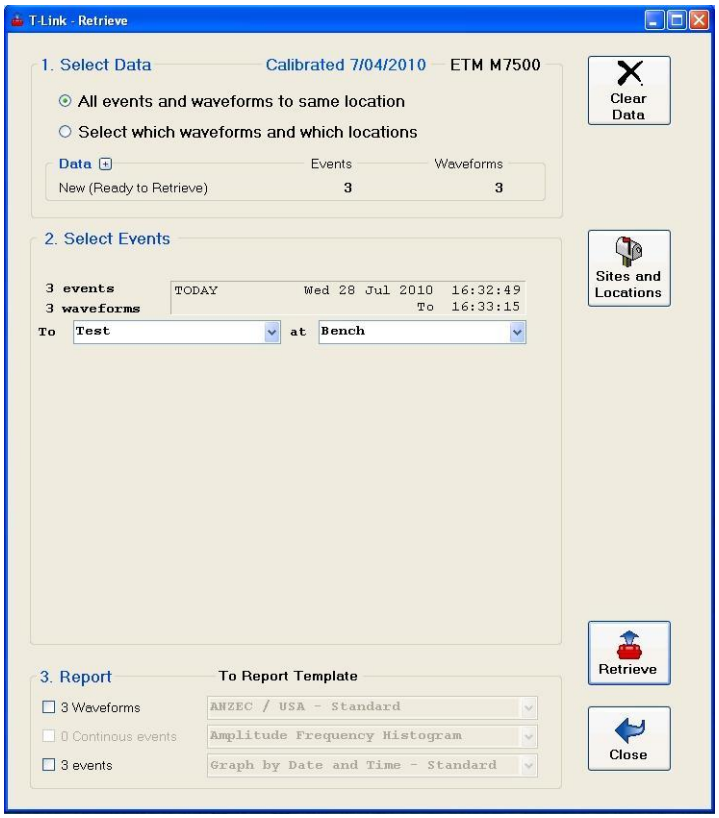
Figure 108: Retrieve window Continuous events only

Events, No waveforms

Only events to retrieve

Waveform reports	N/A
Continuous reports	OK
Spreadsheet reports	OK

Figure 109: Retrieve window Triggered events only

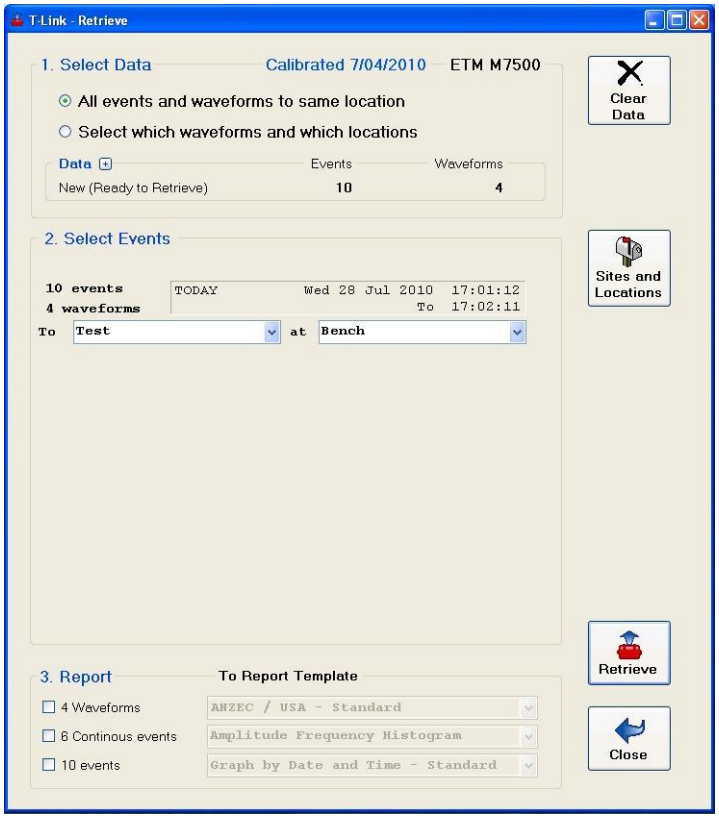


Events and waveforms,
In equal numbers

Events and waveforms to retrieve

Waveform reports	OK
Continuous reports	N/A
Spreadsheet reports	OK

Figure 110: Retrieve window Continuous and Triggered events



Events and waveform,
More events than waveforms

Events and waveforms to retrieve

Waveform reports	OK
Continuous reports	OK
Spreadsheet reports	OK

All events and waveforms to the same location

1. This is the default option, T-Link will automatically select all those events and waveforms you have not yet retrieved. You can think of this as 'Retrieve New'.

☞ **T-Link will not retrieve the same data twice**

2. Make sure the Site and Location names are correct - Sites and Locations

3. And select any report options you want - Retrieve and Report options

Then press the Retrieve Button at the bottom of the Retrieve Window:

Figure 111: Press to Retrieve Data

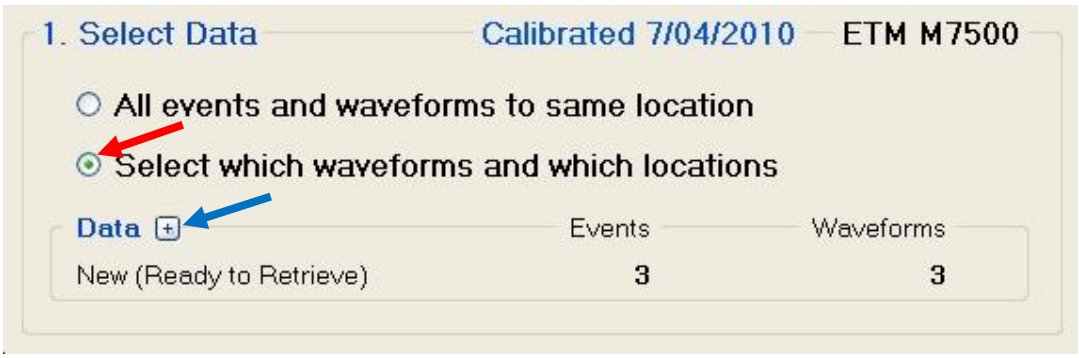
Select which waveforms and which locations

All events and waveforms to the same location is the recommended and easy way to retrieve data, but there are sometimes reasons for going to the extent of selecting specific data – for example:

- A portable monitor may have been used at more than one Site or Location and you will then need to specify the Sites and/or Locations for each event.
- A monitor contains many events or waveforms you know you do not need; use the selection to retrieve only those of interest.

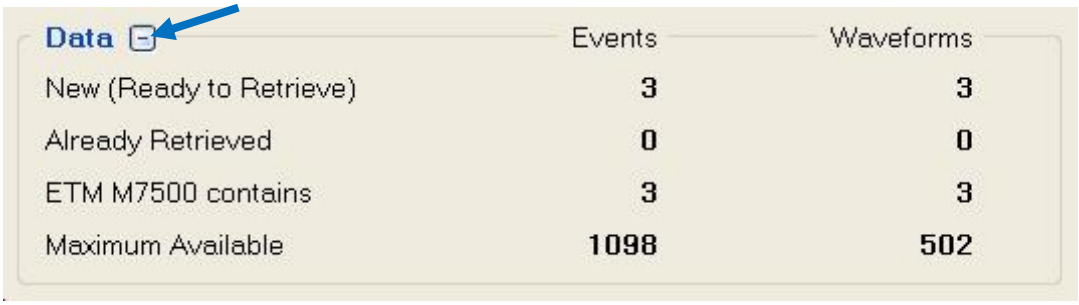
To select events and/or waveforms, highlight the ***Select which waveforms and which locations*** option – see red arrow in Figure 112.

Figure 112: Select What is Retrieved option highlighted



Sometimes, if there is a lot of data in the monitor, you may not know what data has already been retrieved. In this case, press the [+] box at the blue arrow in Figure 112 to display the details as in Figure 113.

Figure 113: Data in Monitor Summary



Press the same (now [-]) box (see blue arrow in Figure 113) to hide the data summary display.

Monitoring Sessions

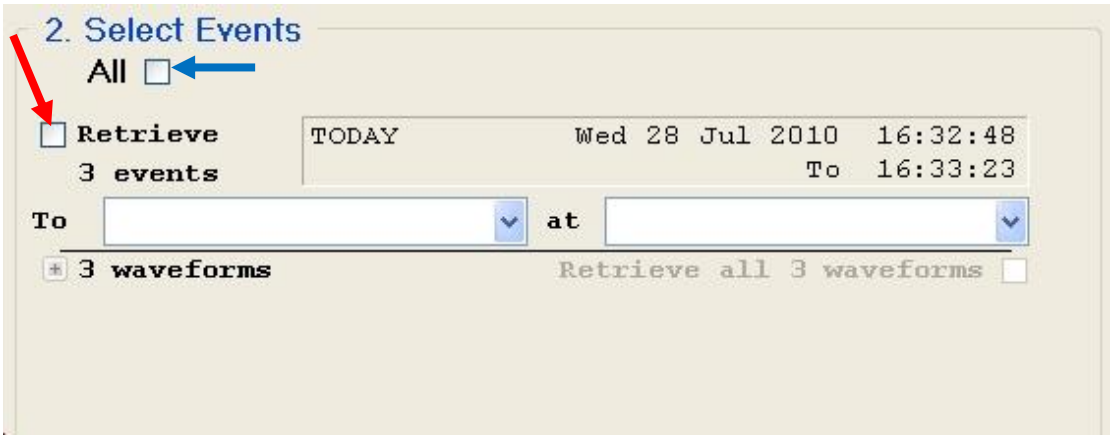
Events not yet retrieved are presented in groups representing all the events for each time the monitor went duty and was stopped – a "Go and Stop" group or '***Monitoring Session***'.
All events in a Monitoring Session must have been captured at one location, so this provides a simple way to select the events.

The monitoring sessions are displayed showing you the number of events and the date and time when the monitor went duty and when it stopped.

First select which monitoring session/s you wish to retrieve by ticking the box shown with the red arrow in Figure 114.

Once you have seen the monitoring sessions' events, you may wish just to Select All displayed events – select the box shown by the blue arrow in Figure 114. This is effectively the same as ***All events*** above, except you can still specify which waveforms if there are any.

Figure 114: Event selection



Once you have selected to retrieve the events from a monitoring session, you can select the site and location for those events, using the drop boxes shown with red arrows in Figure 115.

Figure 115: Select events Retrieve box ticked

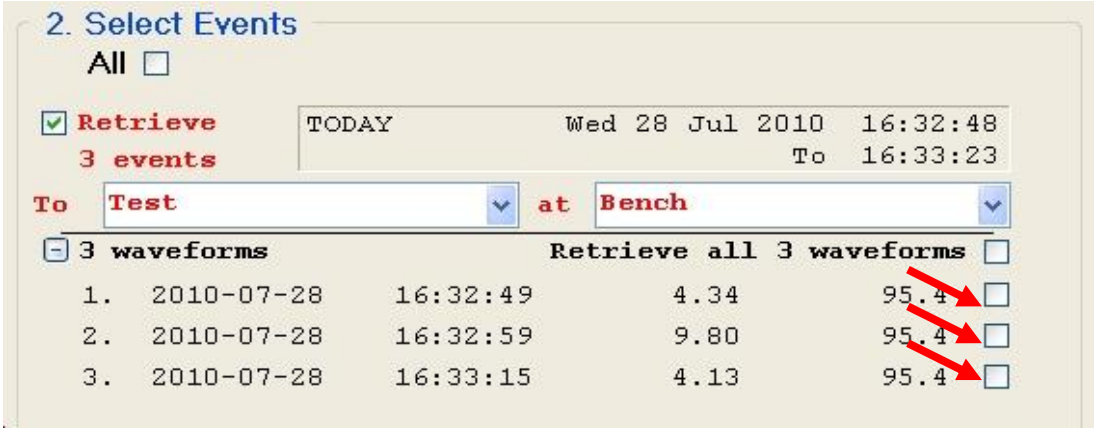
If the events have waveforms attached, you must select to retrieve them or they will not be retrieved:

Either: Retrieve all waveforms for the group by checking the "***Retrieve all # waveforms***" box – see red arrow in Figure 116 below,

Or : Click the [+] box (blue arrow in Figure 116) to show the individual waveforms for selecting as in Figure 117.

Figure 116: Selecting Waveforms

Figure 117: Select individual waveforms



To select one of the waveforms, just tick the box next to it, see the red arrows in Figure 117.

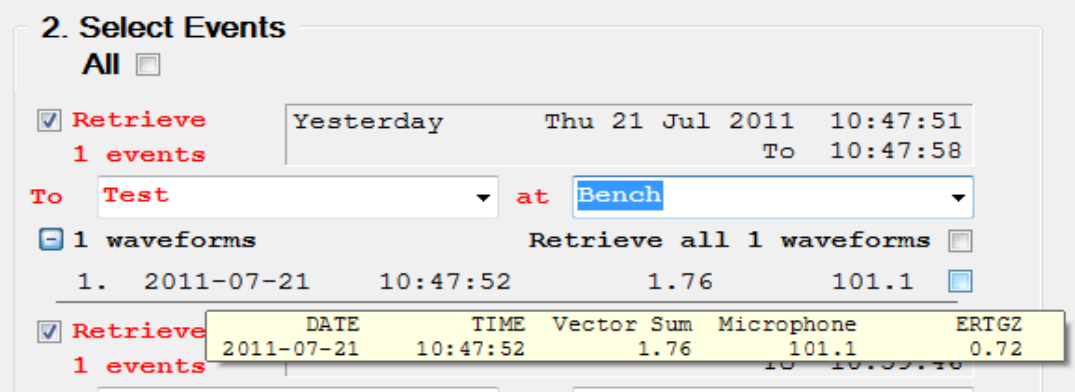
The waveforms are identified by the date and time of the event and a summary of the results – for a standard compliance 'blast', the results displayed are Vector Sum, Peak dBL and ERTGZ.

ERTGZ Definition
ERTGZ (Estimated Range To Ground Zero) is an estimate of the distance from the trigger event to the monitor derived from the Microphone Peak Arrival Time.

Identify the Individual Waveform Events by result Information

To identify the results, hold the mouse over an event row, and a tool tip of the results and result 'header' as shown for Event 2 in Figure 118 will appear.

Figure 118: Waveform with Results Tool tip



☞ **The actual results shown will depend on your settings**

As events and waveforms are selected, **Retrieve and Report** options will be enabled to match the selected data – see Figure 123 above.

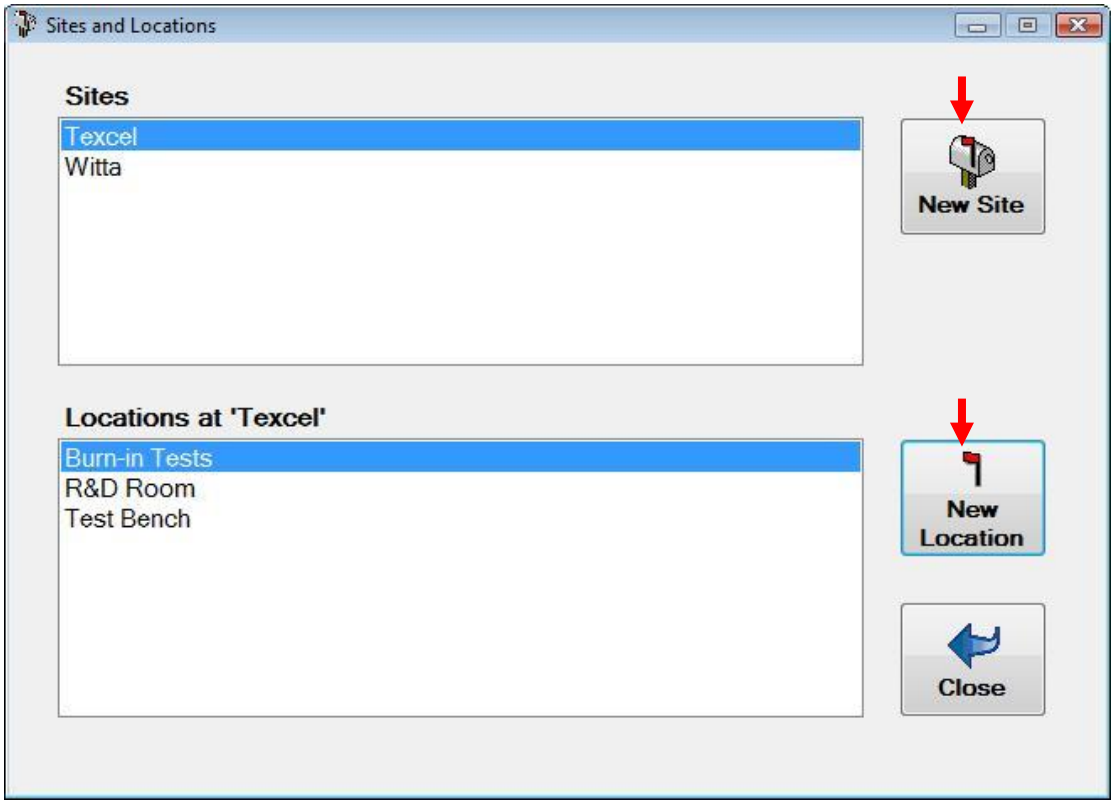
Sites and Locations

Before you start retrieving anything you must set up the **Sites and Locations** where you want the data to be stored. To set up the **Sites and Locations,** press the button in Figure 119.

Figure 119: Sites and Locations Button

This shows the window shown in Figure 120:

Figure 120: Sites and Locations



To enter a new site or a new location, press the corresponding button indicated by the red arrows in Figure 120.

The window for entering a new site is below in Figure 121.
The window for entering a new location is below in Figure 122.

Site Name restrictions

Because the Site Name is a folder name in windows, it must follow Windows folder naming conventions, which will not allow ASCII/Unicode characters 1 through 31, as

well as quote ("), less than (<), greater than (>), pipe (|), backspace (\b), null (\0) and tab (\t). T-Link also disallows the at symbol (@).

Location Names are restricted by the same characters.

Also, the site names “System” and “LockedFiles” are reserved.

Figure 121: Enter a New Site Name

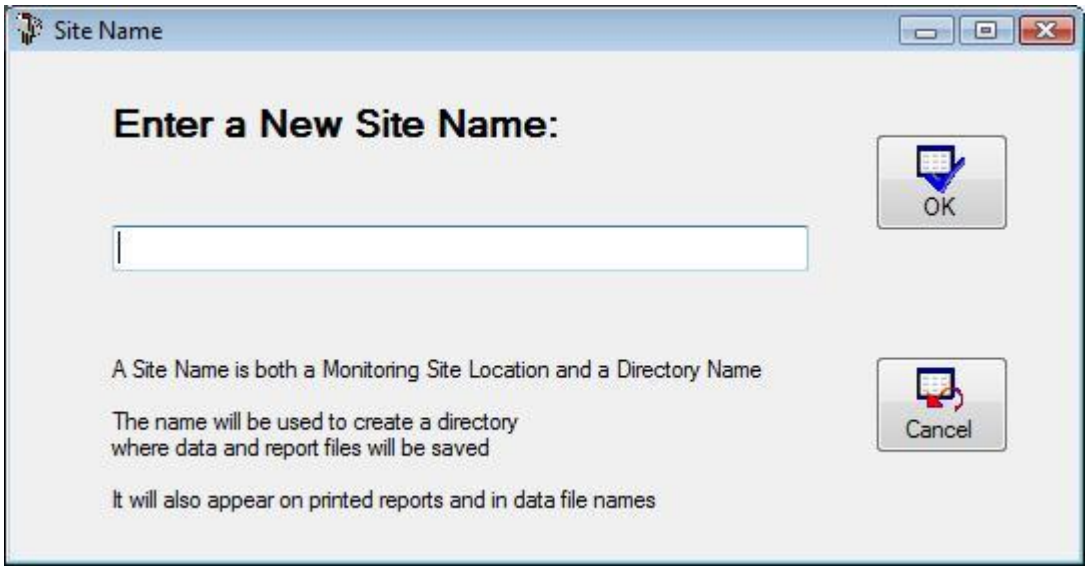
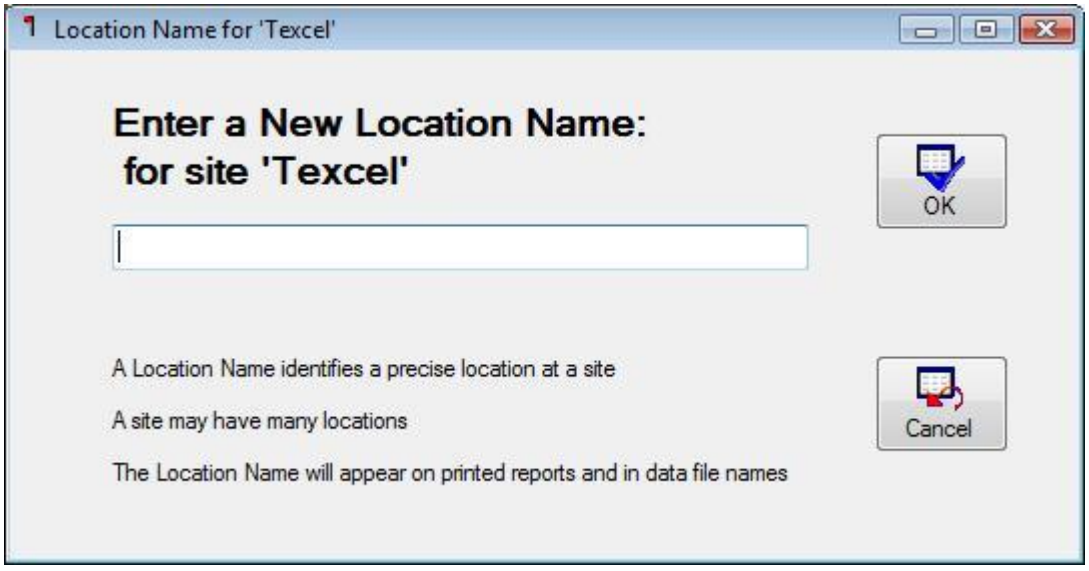

Site Name
Enter a New Site Name:
OK
A Site Name is both a Monitoring Site Location and a Directory Name
The name will be used to create a directory
where data and report files will be saved
It will also appear on printed reports and in data file names
Cancel

Figure 122: Enter a New Location Name


Location Name for 'Texcel'
Enter a New Location Name:
for site 'Texcel'
OK
A Location Name identifies a precise location at a site
A site may have many locations
The Location Name will appear on printed reports and in data file names
Cancel

Note: The information on these windows explains how Site and Location names are used in T-Link.

Once the site and location have been set up, it is now time to retrieve the data.

Retrieve and Report options

When you retrieve data from the monitor in T-Link you can now do the report at the time of retrieval.

Figure 123 Data retrieval report options

In Figure 123 all the report options for **Waveforms** are shown. The **Continuous events** and **events** drop boxes allow you to access the reports for those data types.

The report options available will reflect the type of data you are retrieving.

Note: All these report options are also available after you have retrieved the data from the Report Window – see Figure 128 below.

All Set up – Retrieve It

Once you are happy with your selections, press the Retrieve button as shown in Figure 124:

Figure 124: Press to Retrieve Data

Re-Retrieving your Data

If you need to re-retrieve the data from a monitor for any reason - you retrieved it to the wrong Site or Location, for example.

Press and hold the Ctrl Key when you click the **Retrieve Button** on the ***T-Link Main Window*** (see Figure 23 above).

T-Link will behave as if *ALL the data* in your monitor is being retrieved for the first time, so you can allocate the data to a different Site and/or Location.

☞ **This also works when you are connected remotely, but be careful if there is a lot of data, you may have a big retrieval.**

Clearing the Data in the Monitor

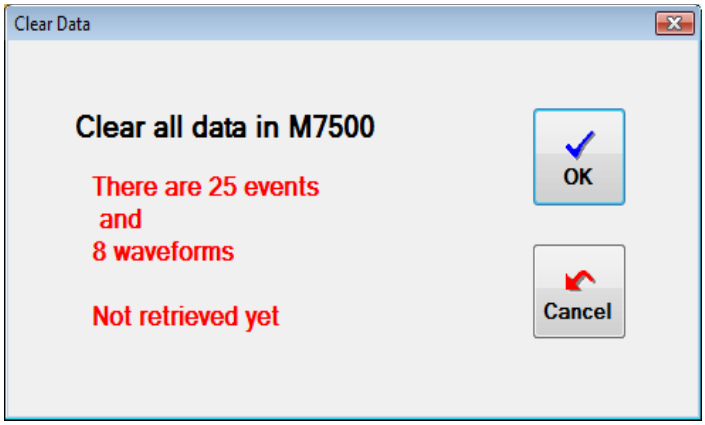
From the Retrieve Window (as in Figure 108) you can clear the data ***in the monitor***, before or after retrieving the data.

Simply press the Clear Data Button.

Figure 125: Clear Data Button

This will open the following Clear Data Window:

Figure 126: Clear Data Window



Press OK to clear all event and waveform data in the monitor.

Note: Configuring a Monitor will clear any data in the monitor (you will be prompted if you have not retrieved it all).

☞ **Once you have cleared the data from the monitor you cannot Re-retrieve it**

How T-Link Save's Data Files to Sites and Locations

Sites are folders in your T-Link Data Path – see Where T-Link's Data is stored on your Computer below.

Locations appear in their Site Folder and consist of an Event File (*.evt) and any number of waveform (*.twf) and report files (*.rtf, *.xls) with the same names, but different times at the end.

E.g. For a Site named 'Test' and a location named 'Test bench'

The Event File for ETM 7500 will be named:
`"D:\Documents\Texcel\T-Link\Test\M7500 Test @ Bench.evt"`

A Waveform File may be named:
`"D:\Documents\Texcel\T-Link\Test\M7500 Test @ Bench @ 2011-10-13 17.50.00.twf"`

And a Report File may be named:
`"D:\Documents\Texcel\T-Link\Test\M7500 Test @ Bench @ 2011-10-13 17.50.00 - Report.rtf"`

T-SiteExplorer

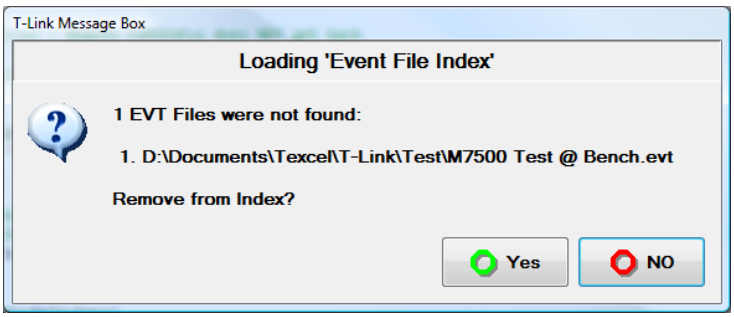
The Texcel Suite contains a support T-Link application called T-SiteExplorer.

☞ **T-SiteExplorer allows you to delete or rename sites and locations, and move T-Link results data between existing sites and locations.**

Event Files Not Found Message on Startup

If you get this message when you start T-Link, it means that the Event Data file referenced in the Event File Index was not found. Any data in that file will not be available for reporting.

Figure 127: Event File not found message



Unless you know what has happened to the file, it is usually best to say *Yes*. T-Link will operate normally either way.

Saying Yes will not delete any data, and any data files renamed or moved in the Windows file system can be recovered by importing them with T-SiteExplorer.

Where T-Link's Data is stored on your Computer

T-Link automatically creates a folder in your Public Documents folder called Texcel, and a folder inside it called T-Link.

- ☞ **If you upgrade an older version of T-Link using your *My Documents* folder, T-Link will continue to use that**

This is the ***T-Link Data Path*** where all T-Link's data is retrieved to.

The default folder arrangement is as follows:

```
C:\Users\Public\Documents\Texcel\T-Link
C:\Users\Public\Documents\Texcel\T-Link\System
C:\Users\Public\Documents\Texcel\T-Link\System\Settings
C:\Users\Public\Documents\Texcel\T-Link\Site 1
C:\Users\Public\Documents\Texcel\T-Link\Site 2
```

Note: Default paths shown are for Microsoft Windows Vista and Windows 7.

For Windows XP, the default T-Link folder is here:
`C:\Documents and Settings\All Users\Documents\Texcel\T-Link`

The **T-Link\System** Folder contains details of Monitors and indexes – this data should not be touched except under advice from Texcel.

The **T-Link\System\Settings** contains any Saved Settings you have created.

The **Site 1** and **Site 2** folders are actually named from the site names you supply through the Site Name Window (Figure 121 above), and contain all the data and reports generated for those sites. Figure 17

This whole folder structure can be moved anywhere on your computer or network.

Save your Data to a Different Place on your Computer or Network

Simply point the ***T-Link Data Path*** to the location you want to use.

See Path Options – T-Link Data Path on page 148.

Managing Multiple Data Paths with Shortcuts

T-Link 2 introduces a command line parameter to specify a temporary Data Path.

Use this to make T-Link use a specific Data Path for this session. The format of the command line parameter is:

```
/data "Full T-Link Data Path Name"
```

Consult your System Administrator on how to create shortcuts.

When run from the normal T-Link shortcut (or from the Start Menu), T-Link will revert to using the ***T-Link Data Path*** specified in T-Link Options.

- ☞ **Do not modify the installed T-Link Shortcut**

This allows you to set up separate shortcuts on your Desktop (or wherever you keep your shortcuts) for keeping separate T-Link data sets.

T-Link's Local LOG Files

T-Link maintains a separate ***Local LOG Filed Path*** to save the System and other LOG files (e.g. Modem LOG File see Advanced Communications Options – Remote below).

This defaults to the same Public Folder, as the T-Link Data Path initially:

```
C:\Users\Public\Documents\Texcel\T-Link
```

If you move your ***T-Link Data Path***, the ***Local LOG Files Path*** stays where it is.

- ☞ **It is important that the LOG Files are accessible even if the Data Path is on a network location that is temporarily inaccessible**

If you do not move your ***T-Link Data Path***, the ***Local LOG Files Path*** is not visible in Path Options in T-Link Options.

T-Link's Shared LOG File

All T-Suite applications now share T-Link's System LOG File, so it is easy to follow what has happened across different applications.

When a Shared Data Path is active, all network users share the same LOG file – see T-Suite creates a Shared System LOG File for all Network Users below.

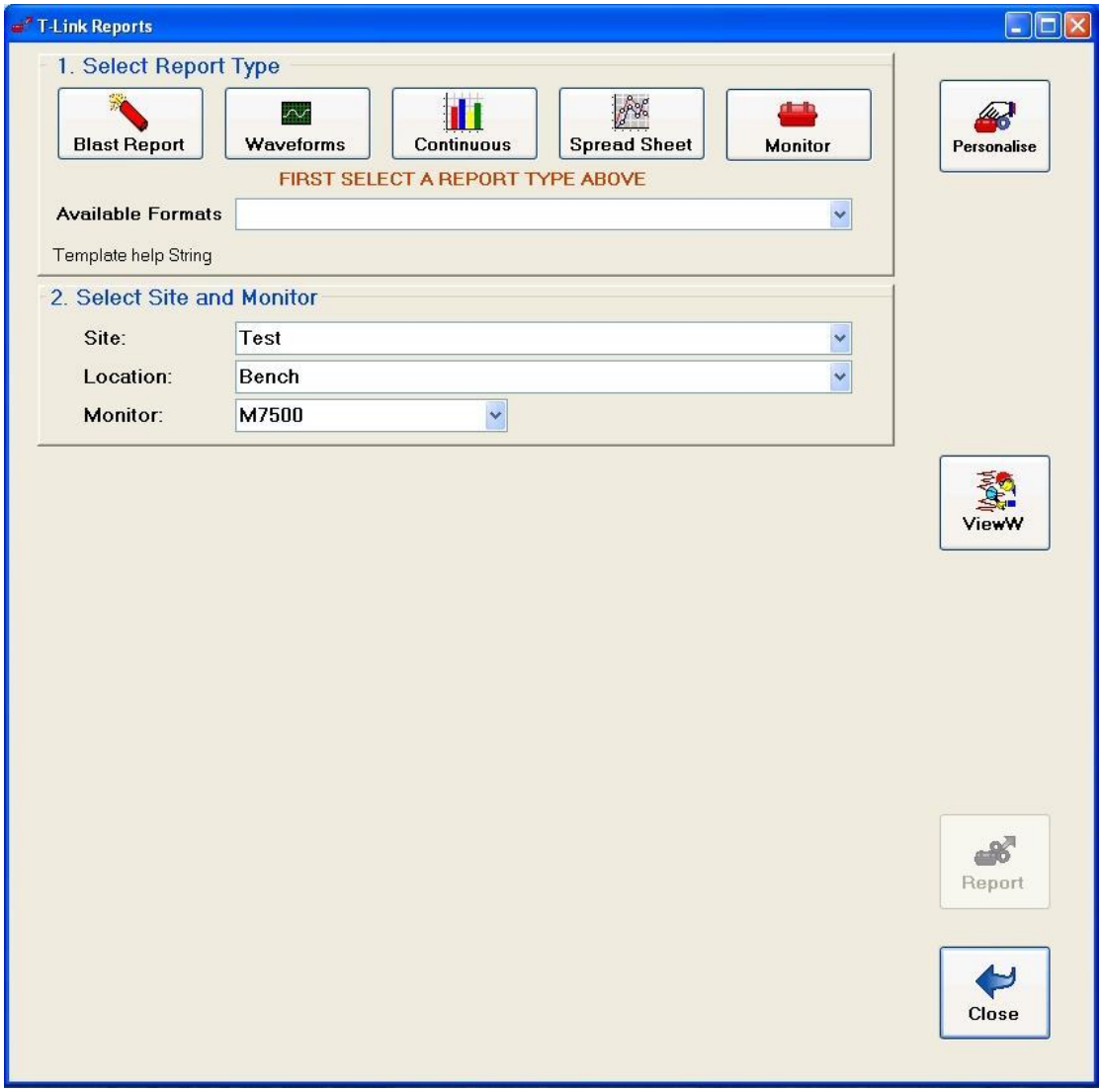
Reporting your Results

In this section you will be shown how to create various reports from data that has been retrieved. To access the reports area of T-Link, press the Report Button shown in Figure 128:

Figure 128: Report Button

This will show the ***T-Link Reports*** window with no ***Report Type*** selected. The ***Site*** and ***Monitor*** will conveniently default to the one you last used.

Figure 129: Reports Window as first opened



Reports

Setting Up your Printing Options

T-Link will select the default windows printer, and locate Microsoft Word and Microsoft Excel automatically when it first starts. In T-Link's First Run (see Figure 6), you are asked to enter your name and company name.

Access your Printing Options from the T-Options application – see T-Link Options on page 140 below.

☞ **Unless you need to change any of these things there is no need to use Printing Options.**

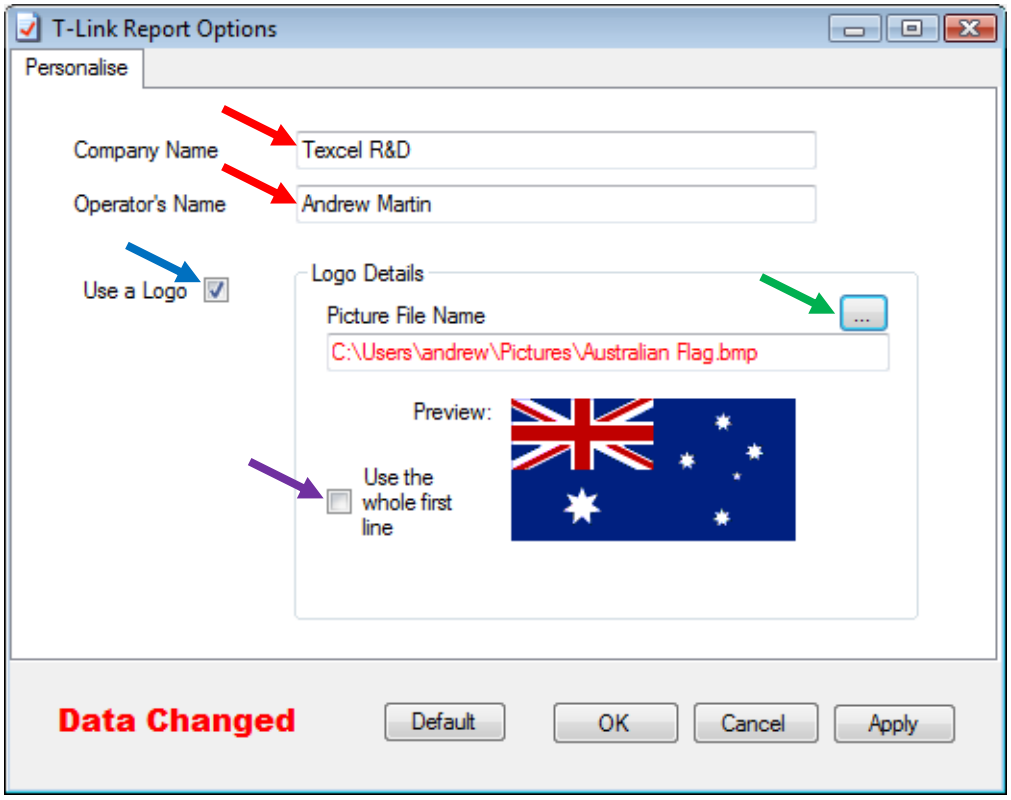
From this window you can personalise your Reports, Press the Personalise Button (shown in Figure 130) at the top right of the Report Main Window (Figure 129).

Figure 130: Printing Options Button

This will open the Personalise Window.

Printing Options – Personalise

Figure 131: Printing Options - Personalise



Your ***Company Name*** and ***Operator's Name*** (red arrows in Figure 131) appear on many reports – especially the Compliance Reports. Type the names you want at the red arrows.

Blast Reports allow you to use a picture file on your disk as a Logo on your printed reports. Tick the '***Use a Logo***' box (blue arrow in Figure 131) and the ***Logo Details*** box will show. Type in the ***Picture File Name*** or click the ***…*** button (green arrow) to select the file from your disk. If you have a wide logo, you can tick the '***Use the whole first line***' box (purple arrow).

Note: T-Link does not scale your image, which will normally be located in the top left corner of the blast report sheets. To include your company logo on blast reports, you should first adjust the image to the desired size, which is recommended not to exceed 50 mm (2 inches) wide. If the logo is larger than this, you may wish to tick the option ***Use the whole first line***, in which case your company logo will occupy the entire top line of the blast report sheets.

Report Types

There are a number of different report types, some are compliance reports or reports for specific purposes, but there are reports that export data for analysis, usually with Excel.

Figure 132: Report Type Selection

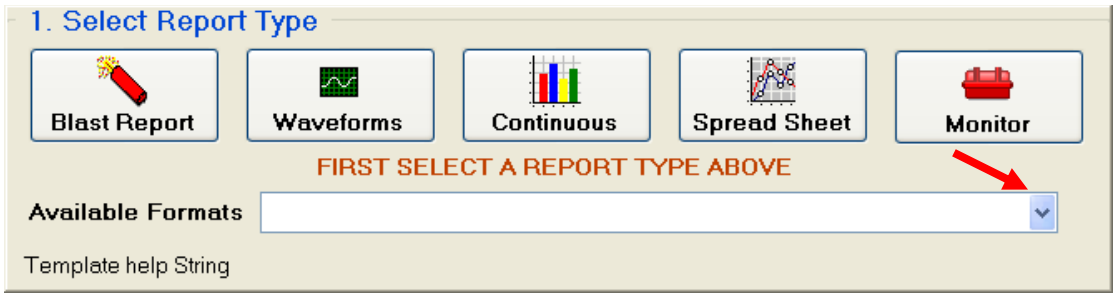
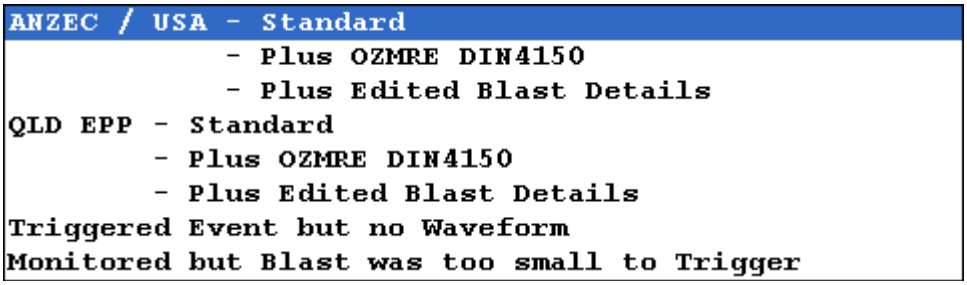


Figure 132 shows all the Report Types to select from. When you have pressed one of the buttons for the type of report you wish to generate, the **Available Formats** drop box will show the report Formats or Options for that Report Type.

It will automatically select the last used report of that type at the Site and Location selected. There will also be a few more to choose from; just open the drop box (click at the red arrow in Figure 132) to view them.

Blast Reports

Figure 133: Blast Report Formats


ANZEC / USA - Standard
- Plus OZMRE DIN4150
- Plus Edited Blast Details
QLD EPP - Standard
- Plus OZMRE DIN4150
- Plus Edited Blast Details
Triggered Event but no Waveform
Monitored but Blast was too small to Trigger

The Blast Report is the Compliance report for blast monitoring. The two basic layouts both include the waveform graphics and Vector Sum Peak, Microphone peak (if MIC was used), as well as a table of results for each channel of the triax including peak, time and frequency (zero cross) of the peak, and acceleration and displacement results estimated from the zero cross frequency.

If you find that you have used up all of your waveform memory in the monitor but you were able to capture the blast data, use '**Triggered but no Waveform**' to get a textural report with all the same details as the standard Blast Report – i.e. there will be no graphic.

If the monitor was set up and running, but the blast was too small to trigger the monitor, a report is available which will show when the monitor was started and stopped, and what the trigger levels were at the time – '**Monitored but Blast was too small to Trigger**'.

Waveform Reports

Figure 134: Waveform Report Formats

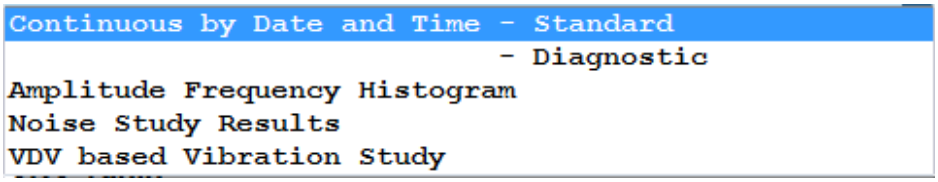
Waveform Reports will work with any waveform (Blast Reports require Compliance Settings).

The '**Export to CSV**' makes a row for each sample point in the waveform, the first column is the time (negative before trigger point) and each monitored channel has a column. This allows simple graphing of the data in Excel and simple export to other data analysis programs. A table of channel settings is displayed to the right of the data columns.

Landscape and Portrait Plots allows a detailed view of the waveform in printed form. Little information is on the report other than the monitor number, date and time of the event, and site and location.

Continuous Reports

Figure 135: Continuous Report Formats



Continuous Reports are specialised reports that include some analysis and formatting of the collected data for a specific purpose:

Graph by Date and Time – An Excel automated report (macros must be allowed to run if they are stopped by your security settings) collects data into a preset series of graphs and plots all points in the data set against date and time – providing an immediate graphical view of the data set. The raw data is available as a separate sheet;

- ☞ **This is the identical Report Format as available in 'Spread Sheet' Report types, but reports ONLY the continuous events in the selected periods.**

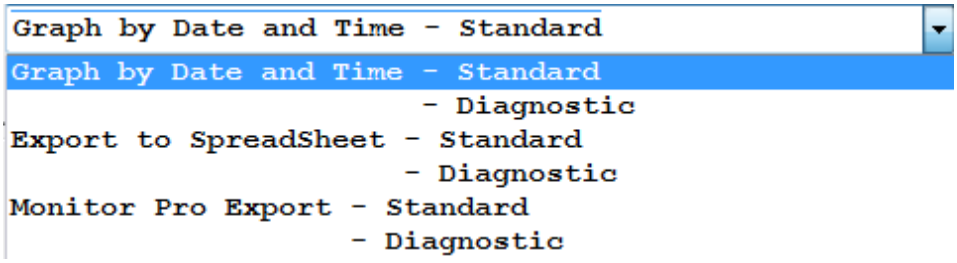
Amplitude Frequency Histogram – An Excel automated report (macros must be allowed to run if they are stopped by your security settings). All continuous events are summarised in a Frequency Histogram and plotted versus time (with a permissible level indicated) on a single printable page. The report defaults to plotting the Vector Sum, but options available in the spreadsheet allow selecting a component of the triax or the maximum component as well as selecting the number of bins for the histogram and the permissible level;

Noise Study Results - An Excel automated report (macros must be allowed to run if they are stopped by your security settings). Each duty period in the selected events is reported separately. The data for the period is analysed and an LA_{eq}, LA_{max}, LA1, LA10 and LA90 result generated for the period. All points are plotted with dBA on the vertical and time on the horizontal axis – the generated LA values are displayed as straight lines across the graph. The raw data is available on a separate sheet;

VDV based Vibration Study – A text based report, where VDV reports are tabulated by date and time of the monitor's duty, summarised in daytime and night-time periods as recommended in NSW EPA interim BS 6472 update.

Spreadsheet Reports

Figure 136: Spreadsheet Report Formats


Graph by Date and Time - Standard
Graph by Date and Time - Standard
- Diagnostic
Export to SpreadSheet - Standard
- Diagnostic
Monitor Pro Export - Standard
- Diagnostic

Spreadsheet reports export all data to an Excel (or other) spreadsheet for analysis. They are actually exported in tab-delimited text format, and the data is left on the disk in a .txt file:

Standard data reports maximum peaks for each channel and collects column headers by channel;

Diagnostic reports both positive and negative peaks for each channel and collects columns by result type. Both data sets' first columns are date, time, monitor serial, and trigger source;

Graph by Date and Time – An Excel automated report (macros must be allowed to run if they are stopped by your security settings) collects data into a preset series of graphs and plots all points in the data set against date and time – providing an immediate graphical view of the data set. The raw data is available as a separate sheet;

- ☞ **This report type is also available under Continuous Report Types, where threshold events are excluded from the report. This is useful for neat summaries when Triggered and Continuous Logging modes are used at the same time.**

Export Events to Spreadsheet – Just exports the selected data and opens it in the spreadsheet.

Monitor Pro Export – A specific report with features for automated import by a background process. Contact Texcel if this sounds useful.

Monitor Reports

Figure 137: Monitor Report Formats

Activity Reports – Provide a text report (in Word) that displays the activity of a monitor, recording both any data related activity (when the monitor went duty, when it was stopped/turned off, any changes to trigger levels, …) at the monitor itself, and T-Links interactions with the monitor (connecting, configuring, retrieving data);

History – opens the raw (unformatted) history file in Notepad. There is more information in the history file than is reported in the Activity Report, but this is mostly for use with Texcel Support;

Settings Currently in Monitor – This is the same report presented after configuring a monitor from Texcel Settings (see Texcel Settings) or from the Custom Settings Window (see Custom Settings). The reason for having it here is that the report is available even if the monitor is not.

Creating a Report

The T-Link Reports Window shows 3 sections numbered from 1 to 3. These indicate the steps you take to generate a report. The data presented and information requested will vary according to the Report Type, but the process is the same.

Step 1 – Select the Report Type

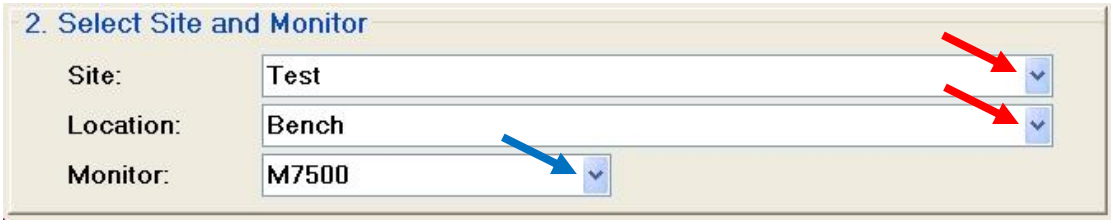
Figure 138: Select Report Type

Click on one of the 5 report Type buttons shown by red arrows in Figure 138. A simple explanation of the Report Type is shown in orange under the buttons.

Also select the Report Format from the drop box (blue arrow) if you need to. T-Link will remember the format you used last time.

Step 2 – Select Site and Monitor

Figure 139: Select Site and Monitor



This will default to the last data you retrieved, so will often be in the right place. Select Site and Location from the drop boxes at the red arrows in Figure 139, and monitor from the drop box at the blue arrow.

Note: For Monitor Type Reports, the Site and Location drop boxes will be greyed out because you only need to select a Monitor.

Step 3 – Select Events

Figure 140: Select Events

The actual display of events will depend on the Report Type selected, but the top of the Select Events section is always the same. It defaults to showing you events from the last two weeks only.

The events displayed are always those events between the From Date and the To Date. The To Date always starts at 'today'.

Set the From Date by clicking at the red arrow and the To Date by clicking at the green arrow.

By selecting dates, any block of events at the selected Monitor, Site and Location can be shown.

You can select any date on either date control, but dates in the future will be inaccessible.

Tick the ***Select All*** box (purple arrow in Figure 140) to select all displayed events.

Selecting Waveforms or Individual Events

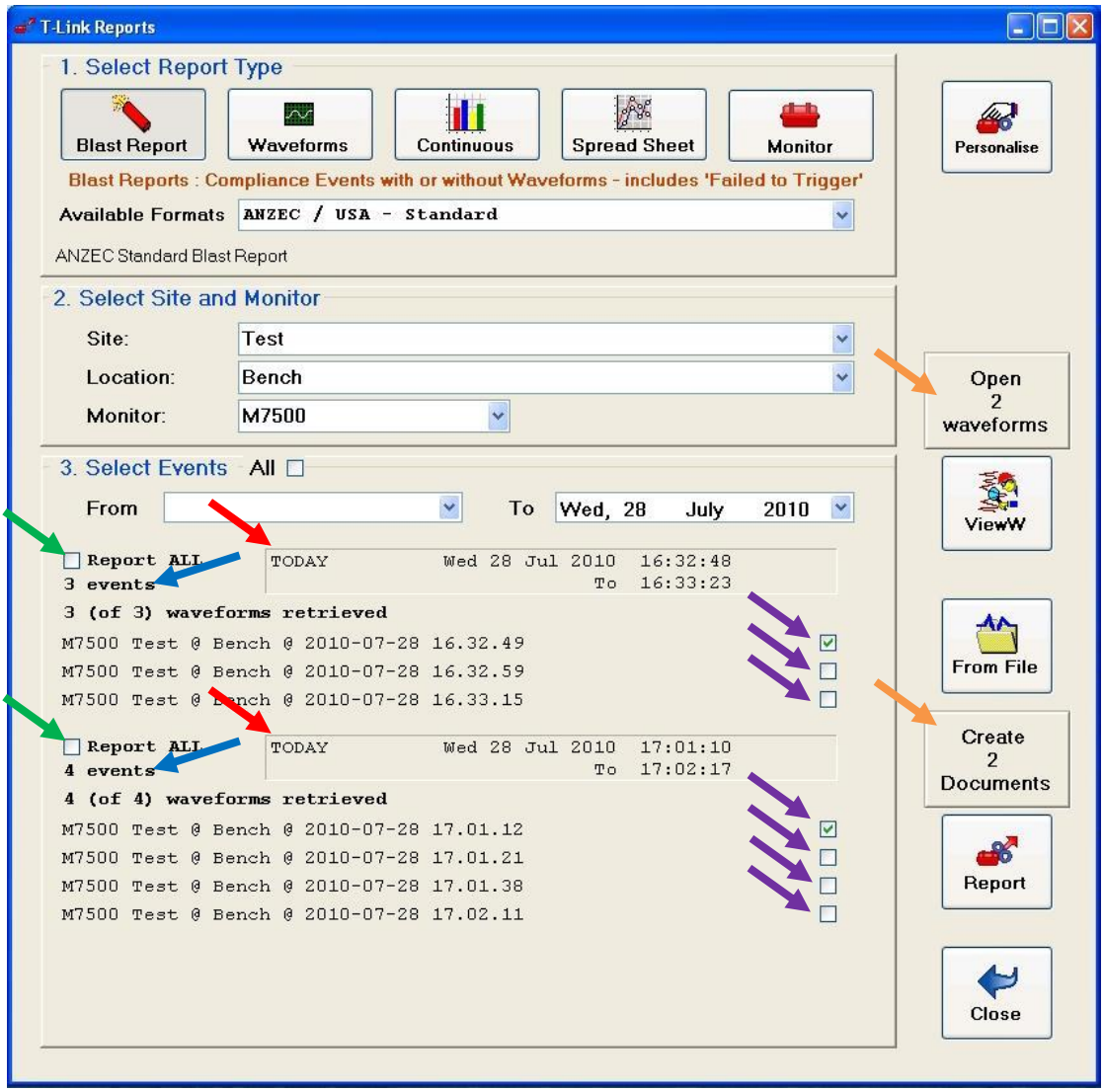
Just like the Retrieve Event Selection (see Figure 114), events are displayed in Monitoring Sessions – each session representing all events captured between when a monitor went duty and was stopped.

The date and time of the Go Duty and Stop are displayed in boxes as identified by the red arrows in Figure 141, and the number of events in the session is displayed as shown by the blue arrows in Figure 141.

For Blast and Waveform Reports, all the events are displayed under the monitoring session headers.

Select all events in a monitoring session group by ticking the boxes at the green arrows, or select individual events by ticking the boxes shown by the purple arrows.

Figure 141: Select Waveforms for Report



Here two events have been selected. When you select more than one event and want to generate multiple reports, the boxes shown by the orange arrows in Figure 141 display, telling you how many documents will be created when you click the Report button, or how many windows will be opened if you click the ***ViewW*** button.

☞ **It is easy to select a whole lot of events and tell T-Link to generate many documents or open many waveforms in ViewW. This can take quite a long time and care should be taken.**

Selecting Events not Waveforms

If you select the Triggered Event but no Waveform Blast Report Format, you will be changed to selecting events. The Select Events window works exactly the same, except the event is displayed showing the vector sum and microphone peak results, instead of the site and location as used for the waveforms.

The ViewW Button for Waveforms

Figure 142: ViewW Button

When you are selecting Waveforms, the ***ViewW*** button will be displayed.

If you click the ***ViewW*** button without any events selected, ***ViewW*** will open in the ***T-Link Data Path***, allowing easy access to all your site folders where the waveforms will be found. See How T-Link's Data is stored on your Computer.

Once you have selected an event, clicking the ViewW button, will open that waveform in ***ViewW*** directly – you will not need to browse your disk to find it.

The From File Button for Waveforms

Figure 143: From File Button

When you are selecting Waveforms, the ***From File*** button will be displayed.

If you click the ***From File*** Button, you will be able to browse your disk to find any Texcel Waveform File or files (*.TWF).

Any selected Texcel Waveform Files will be printed using the currently selected Report Format.

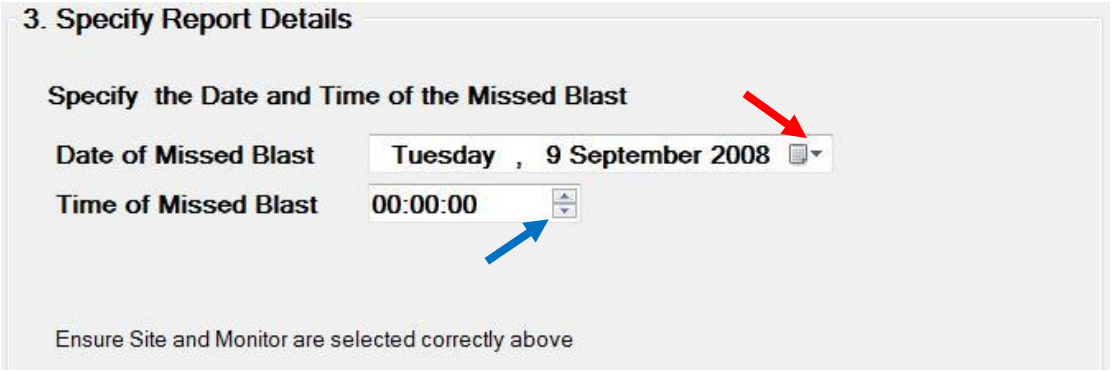
- **There is no way for T-Link to confirm that an opened file will print correctly with the selected template.**

ViewW is Supplied with T-Link

ViewW is an Application for viewing and analysing Texcel Waveform files, as recorded by T-Link (and the older EasyLink) monitors.

Step 3 for 'Blast was too small to Trigger'

Figure 144: Specify Details for 'Blast too small to Trigger'


3. Specify Report Details
Specify the Date and Time of the Missed Blast
Date of Missed Blast
Tuesday , 9 September 2008
Time of Missed Blast
00:00:00
Ensure Site and Monitor are selected correctly above

Specify the Date the Missed Blast occurred, by editing the displayed date text or clicking at the red arrow in Figure 144 to drop down a calendar and pick a date.

Specify the Time of the Missed Blast by typing over the displayed time, or by clicking the Up Down at the blue arrow in Figure 144.

The report uses the date and time to search the monitor's history and print a report of what the monitor was doing at the time, including its Trigger Level Settings if it was monitoring at the time.

If it captures no events and you want to use the 'Missed Blast' Report
Before you demount the monitor, close off the session, and create a test session:

Stop the Monitor
Go Duty again
Cause a Trigger
Retrieve that test event to the correct site and location

If it says No Monitoring Recorded (or No Dates Shown)
For T-Link to allocate an empty Monitoring Session to a Site/Location, it needs to retrieve something to that location since that 'empty session' – follow this procedure:

BEFORE you use the monitor at another location:
1. Go Duty (on the bench is ok)
2. Cause a trigger
3. Retrieve it to the correct site and location

These procedures will allocate the previous 'empty monitoring session' (without any events) to the selected site and location, and the 'Missed the Blast' Report will behave correctly.

Step 3 for Continuous and Spreadsheet

Figure 145: Select Events for Continuous and Spreadsheet Reports

For Continuous and Spreadsheet Reports, the selection process is almost the same as that shown for Events and Waveforms (see Figure 141 above), except that you can only select the events in whole Monitoring Sessions. You cannot see or select individual events on this screen.

For Continuous Reports, only those Monitoring Sessions that contain Continuous events are displayed and able to be selected.

Spreadsheet reports report both Continuous and Triggered events in the same report.

Step 3 for Monitor reports

Figure 146: Specify Details for Monitor Reports

3. Specify Report Details
Select the Monitor and Specify the Dates (and Times)
Start Date and Time
Tuesday , 9 September 2008
00:00:00
End Date and Time
Tuesday , 16 September 2008
23:59:59

Monitor Activity Reports requires you to specify a start and end date and time for the report as shown in Figure 146.

Specify the Dates, by editing the displayed date text or clicking at the red arrows in Figure 146 to drop down a calendar and pick a date.

Specify the Times by typing over the displayed time, or by clicking the Up Down at the blue arrow in Figure 146.

The End Time defaults to the end of today – i.e. the day you are printing the report. The Start Time defaults to the beginning of the day 7 days ago, but if you change this, T-Link will remember how many days you requested and use that as the default for next time.

Report Button

All Reports are actually printed by clicking the ***Report Button***:

Figure 147: Report Button

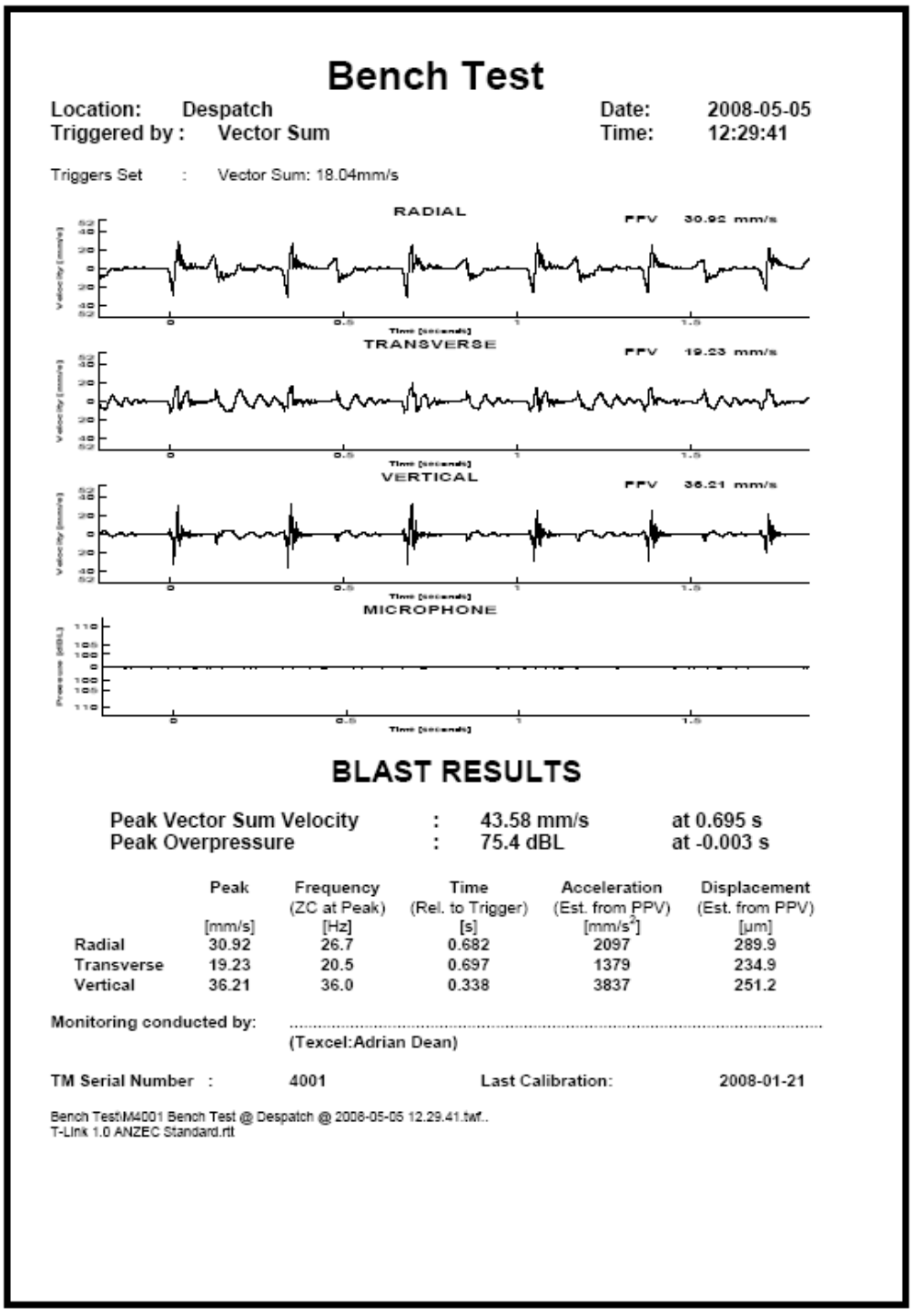
Note: The ***Report Button*** will not be enabled until you specify enough details on the window to generate a report.

Some Example Reports

An ANZECC/USA Standard Blast Report

The example in Figure 148 shows a waveform from a series of bumps on a desk – Settings are Texcel Standard Bench test.

Figure 148: ANZECC/USA Standard Blast Report from Bench Test



Bench Test

Location: Despatch
Triggered by : Vector Sum

Date: 2008-05-05
Time: 12:29:41

Triggers Set : Vector Sum: 18.04mm/s

RADIAL PPV 30.92 mm/s

TRANSVERSE PPV 19.23 mm/s

VERTICAL PPV 36.21 mm/s

MICROPHONE

BLAST RESULTS

Peak Vector Sum Velocity : 43.58 mm/s at 0.695 s
Peak Overpressure : 75.4 dBL at -0.003 s

	Peak [mm/s]	Frequency (ZC at Peak) [Hz]	Time (Rel. to Trigger) [s]	Acceleration (Est. from PPV) [mm/s²]	Displacement (Est. from PPV) [µm]
Radial	30.92	26.7	0.682	2097	289.9
Transverse	19.23	20.5	0.697	1379	234.9
Vertical	36.21	36.0	0.338	3837	251.2

Monitoring conducted by: ..... (Texcel:Adrian Dean)

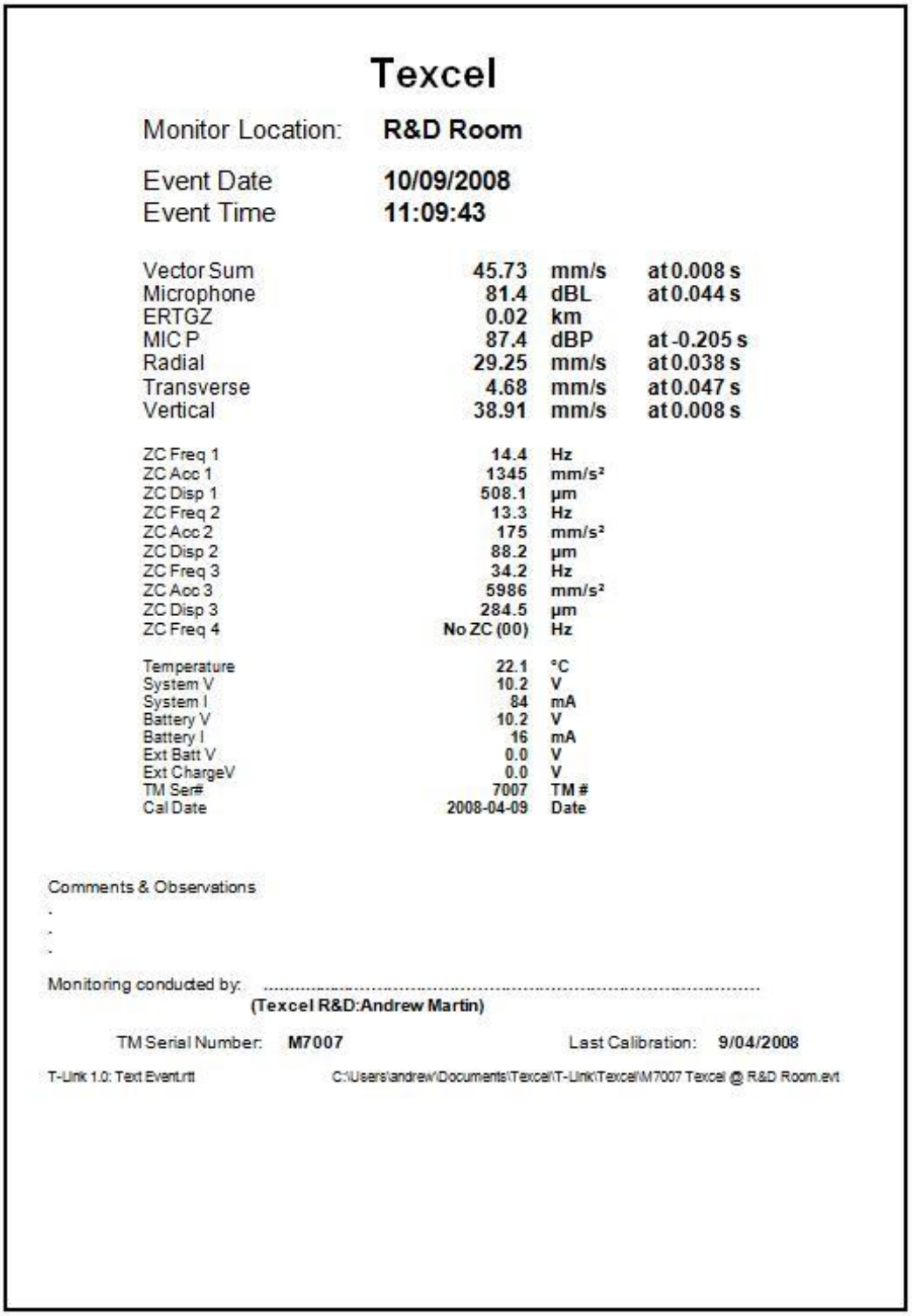
TM Serial Number : 4001 Last Calibration: 2008-01-21

Bench Test\M4001 Bench Test @ Despatch @ 2008-05-05 12.29.41.twf..
T-Link 1.0 ANZEC Standard.rtl

Blast Report - Triggered Event but no Waveform

The ‘text Blast Report’ – also allows a comment area:

Figure 149: Blast Report - Triggered Event but no Waveform



Texcel

Monitor Location: **R&D Room**

Event Date **10/09/2008**
Event Time **11:09:43**

Vector Sum	45.73	mm/s	at 0.008 s
Microphone	81.4	dBL	at 0.044 s
ERTGZ	0.02	km	
MIC P	87.4	dBP	at -0.205 s
Radial	29.25	mm/s	at 0.038 s
Transverse	4.68	mm/s	at 0.047 s
Vertical	38.91	mm/s	at 0.008 s

ZC Freq 1	14.4	Hz
ZC Acc 1	1345	mm/s²
ZC Disp 1	508.1	µm
ZC Freq 2	13.3	Hz
ZC Acc 2	175	mm/s²
ZC Disp 2	88.2	µm
ZC Freq 3	34.2	Hz
ZC Acc 3	5986	mm/s²
ZC Disp 3	284.5	µm
ZC Freq 4	No ZC (00)	Hz

Temperature	22.1	°C
System V	10.2	V
System I	84	mA
Battery V	10.2	V
Battery I	16	mA
Ext Batt V	0.0	V
Ext ChargeV	0.0	V
TM Ser#	7007	TM #
Cal Date	2008-04-09	Date

Comments & Observations
.
.
.

Monitoring conducted by: .....
(Texcel R&D:Andrew Martin)

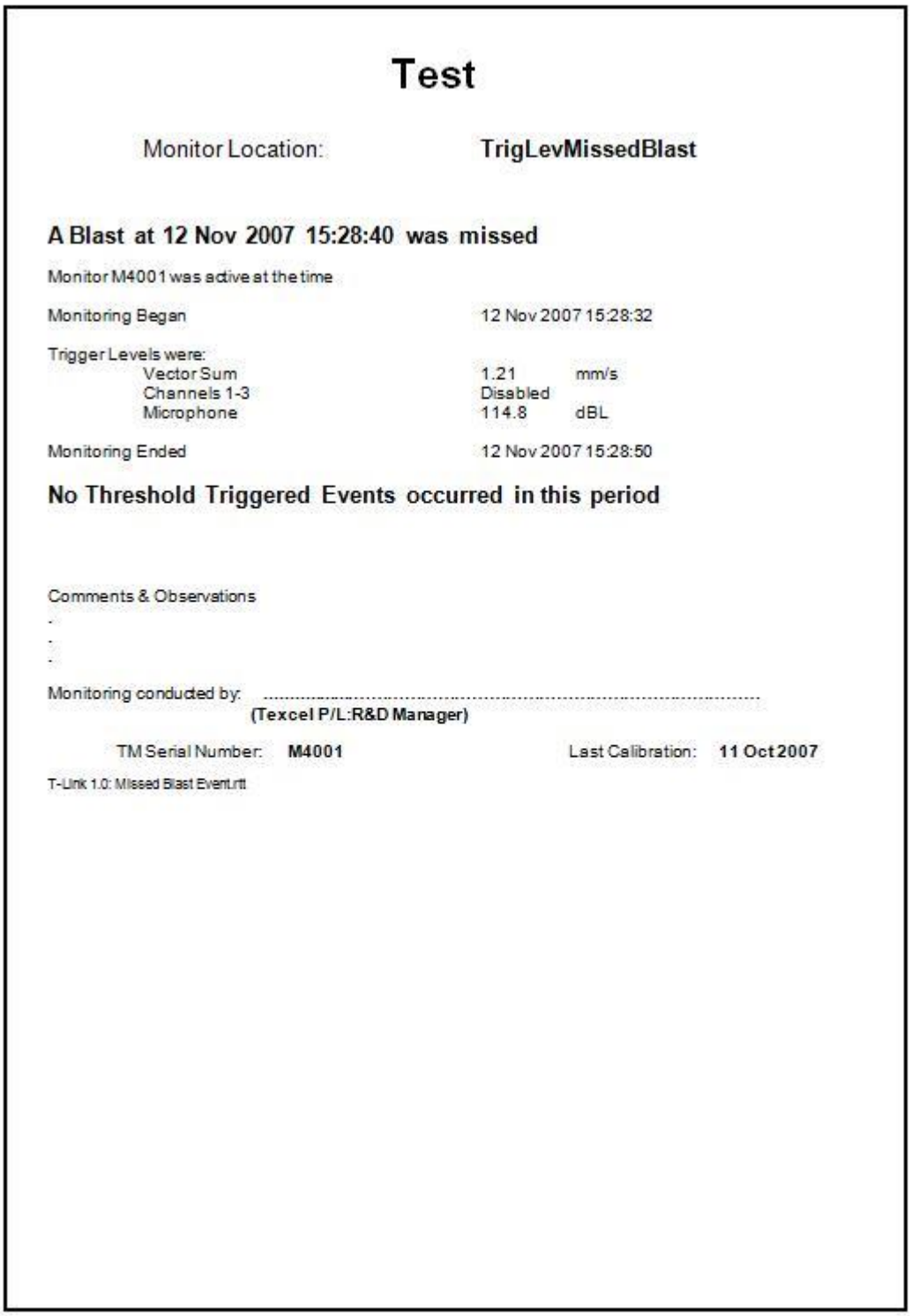
TM Serial Number: **M7007** Last Calibration: **9/04/2008**

T-Link 1.0: Text Event.rtt C:\Users\andrew\Documents\Texcel\T-Link\Texcel\M7007 Texcel @ R&D Room.evt

Blast Report – Monitored but Failed to Trigger

Figure 150 - This again is a 'desktop' example – where the monitor only went duty for a few seconds, but the report detail is correct:

Figure 150: Blast Report - Monitored but Failed to Trigger



Test

Monitor Location: **TrigLevMissedBlast**

A Blast at 12 Nov 2007 15:28:40 was missed

Monitor M4001 was active at the time

Monitoring Began	12 Nov 2007 15:28:32	
Trigger Levels were:		
Vector Sum	1.21	mm/s
Channels 1-3	Disabled	
Microphone	114.8	dBL
Monitoring Ended	12 Nov 2007 15:28:50	

No Threshold Triggered Events occurred in this period

Comments & Observations

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Monitoring conducted by: .....

(Texcel P/L:R&D Manager)

TM Serial Number: **M4001** Last Calibration: **11 Oct 2007**

T-Link 1.0: Missed Blast Event.rtt

Waveform Reports - Portrait and Landscape

Figure 151 shows a 'desktop' reported in Portrait and Figure 152 the same event in Landscape:

Figure 151: Waveform Report – Portrait

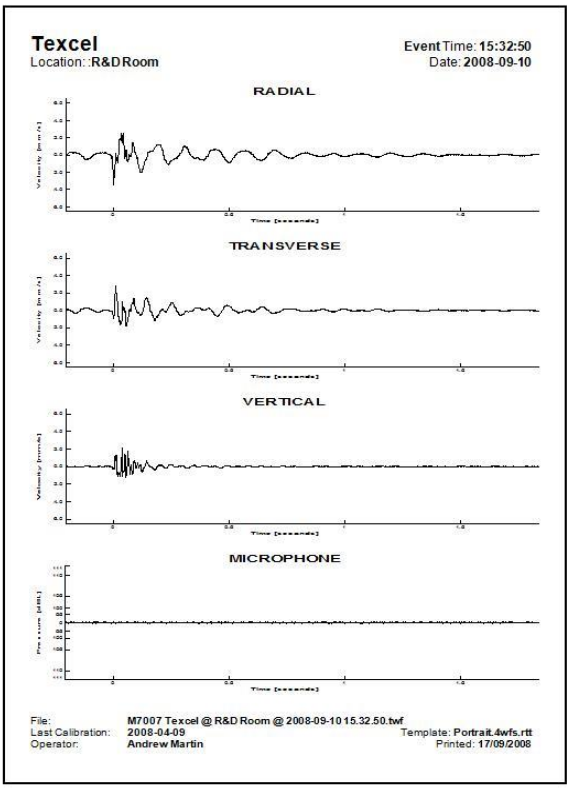
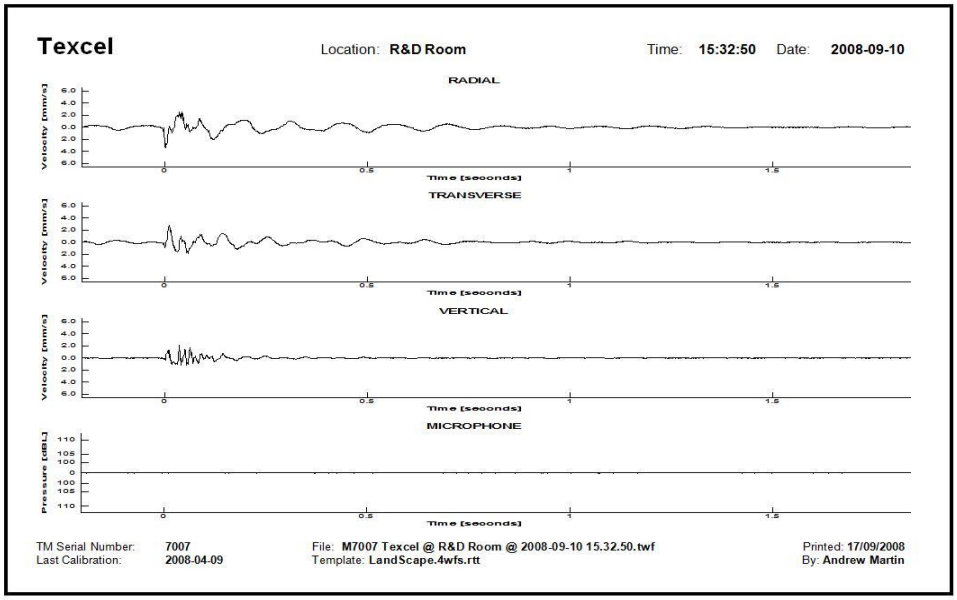


Figure 152: Waveform Report – Landscape

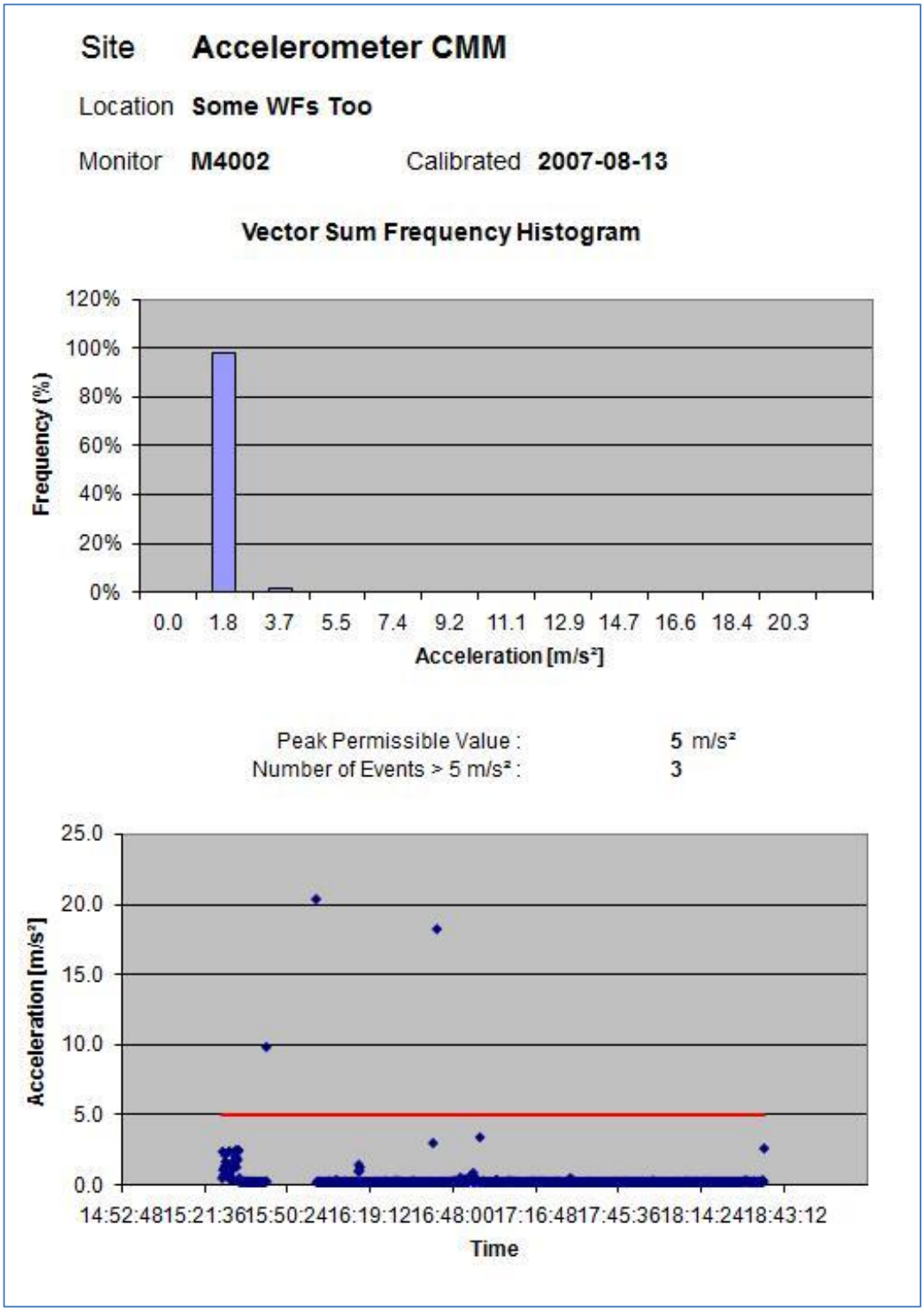


Note: The number of displayed waveforms will depend on the TWF file.

Continuous Report - Amplitude Frequency Histogram

A short set of samples using an accelerometer (Geophone report will look the same):

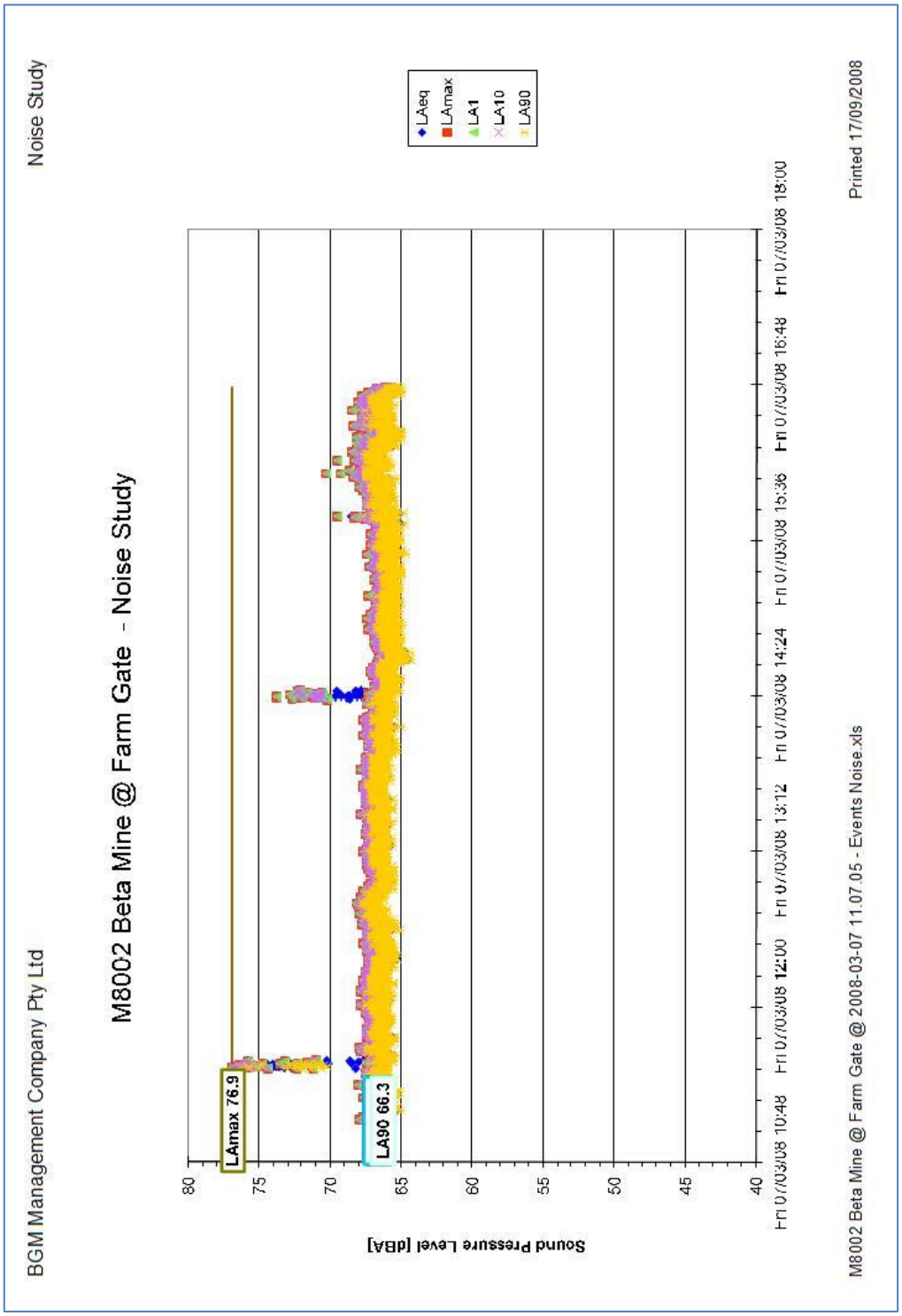
Figure 153: Continuous Report (Accelerometer) - Amplitude Frequency Histogram



Continuous Report - Noise Study Results

This again is a 'desktop' example – where the monitor only went duty for a few seconds, but the report detail is correct:

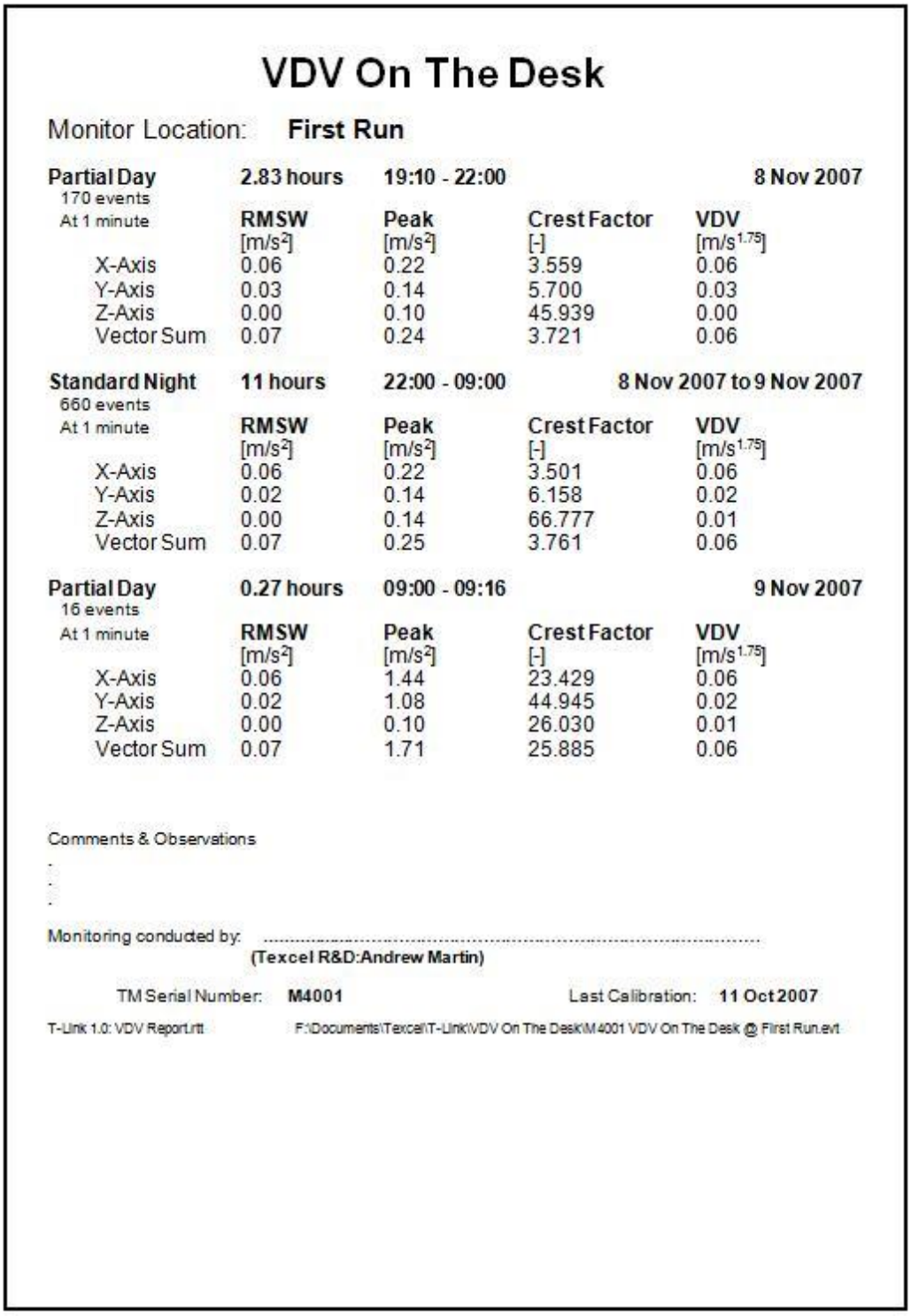
Figure 154: Continuous Report – Noise Study Results



Continuous Report – VDV

This again is a 'desktop' example – an overnight test showing the VDV day and night summary periods:

Figure 155: Continuous Report - VDV



VDV On The Desk

Monitor Location: **First Run**

Partial Day	**2.83 hours**	**19:10 - 22:00**		**8 Nov 2007**
170 events				
At 1 minute	**RMSW** [m/s²]	**Peak** [m/s²]	**Crest Factor** [-]	**VDV** [m/s^1.75]
X-Axis	0.06	0.22	3.559	0.06
Y-Axis	0.03	0.14	5.700	0.03
Z-Axis	0.00	0.10	45.939	0.00
Vector Sum	0.07	0.24	3.721	0.06

Standard Night	**11 hours**	**22:00 - 09:00**		**8 Nov 2007 to 9 Nov 2007**
660 events				
At 1 minute	**RMSW** [m/s²]	**Peak** [m/s²]	**Crest Factor** [-]	**VDV** [m/s^1.75]
X-Axis	0.06	0.22	3.501	0.06
Y-Axis	0.02	0.14	6.158	0.02
Z-Axis	0.00	0.14	66.777	0.01
Vector Sum	0.07	0.25	3.761	0.06

Partial Day	**0.27 hours**	**09:00 - 09:16**		**9 Nov 2007**
16 events				
At 1 minute	**RMSW** [m/s²]	**Peak** [m/s²]	**Crest Factor** [-]	**VDV** [m/s^1.75]
X-Axis	0.06	1.44	23.429	0.06
Y-Axis	0.02	1.08	44.945	0.02
Z-Axis	0.00	0.10	26.030	0.01
Vector Sum	0.07	1.71	25.885	0.06

Comments & Observations

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Monitoring conducted by: .....
(Texcel R&D:Andrew Martin)

TM Serial Number: **M4001** Last Calibration: **11 Oct 2007**

T-Link 1.0: VDV Report.rtt F:\Documents\Texcel\T-Link\VDV On The Desk\M4001 VDV On The Desk @ First Run.evt

Spreadsheet Report - Graph by Date and Time – Standard

This is the same data reported in Diagnostic format below – so you can see the different ways the data is presented – there are more sheets in the full report:

Figure 156: Spreadsheet Report – Graph by Date and Time Standard – Compliance

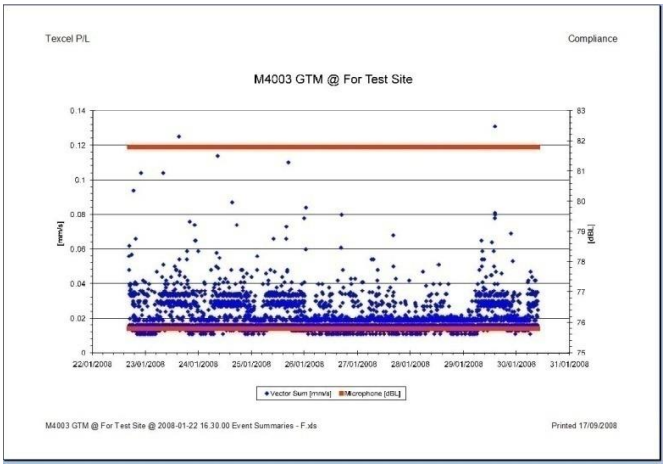


Figure 157: Spreadsheet Report – Graph by Date and Time Standard – Peaks mm/s

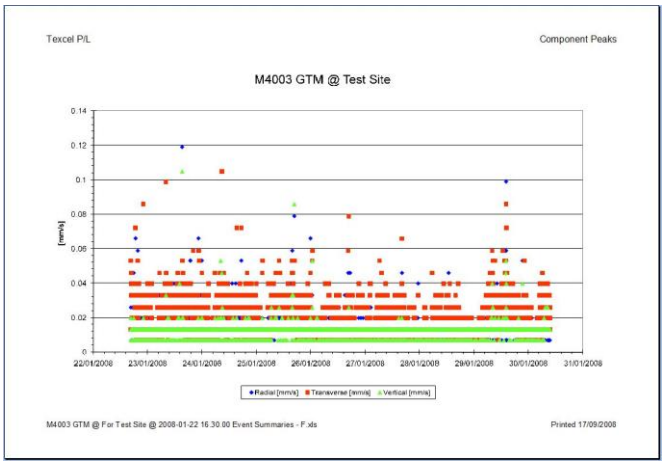
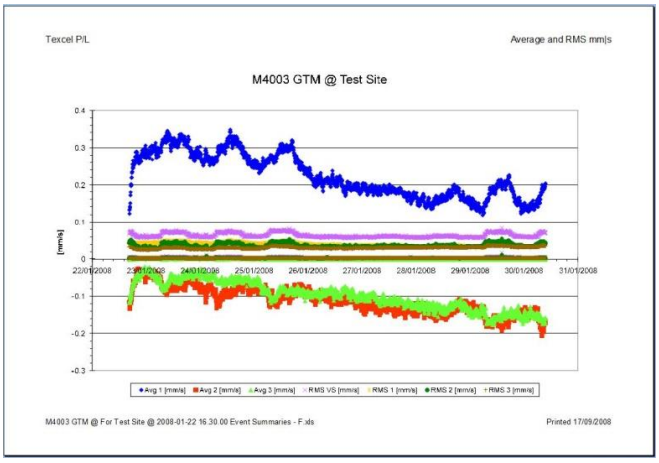


Figure 158: Spreadsheet Report – Graph by Date and Time Standard – Average and RMS



Spreadsheet Report - Graph by Date and Time – Diagnostic

This is the same data reported in Standard format above – so you can see the different ways the data is presented – there are more sheets in the full report:

Figure 159: Spreadsheet Report – Graph by Date and Time Diagnostic– Compliance

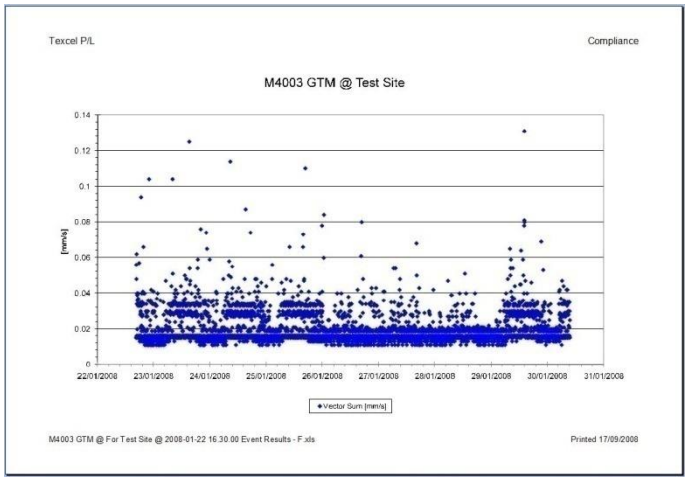


Figure 160: Spreadsheet Report – Graph by Date and Time Diagnostic – mm/s

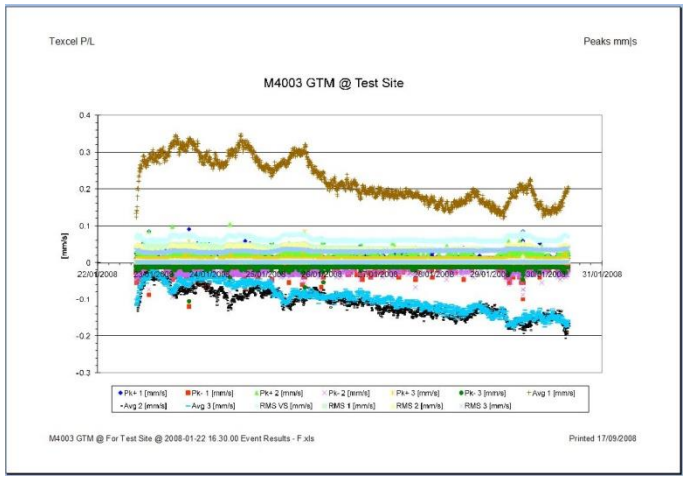
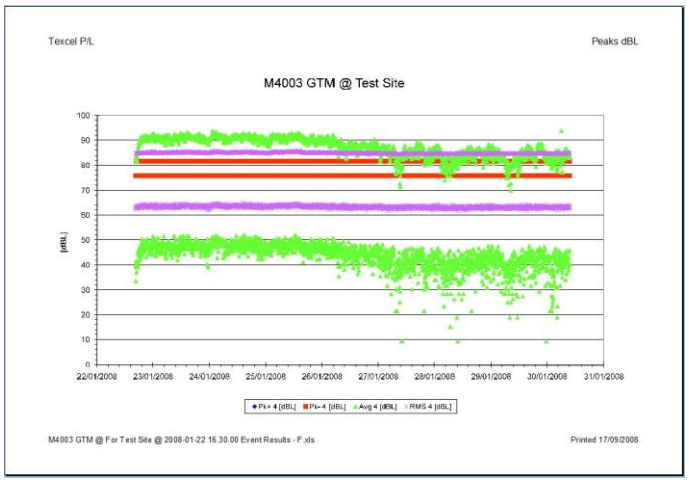


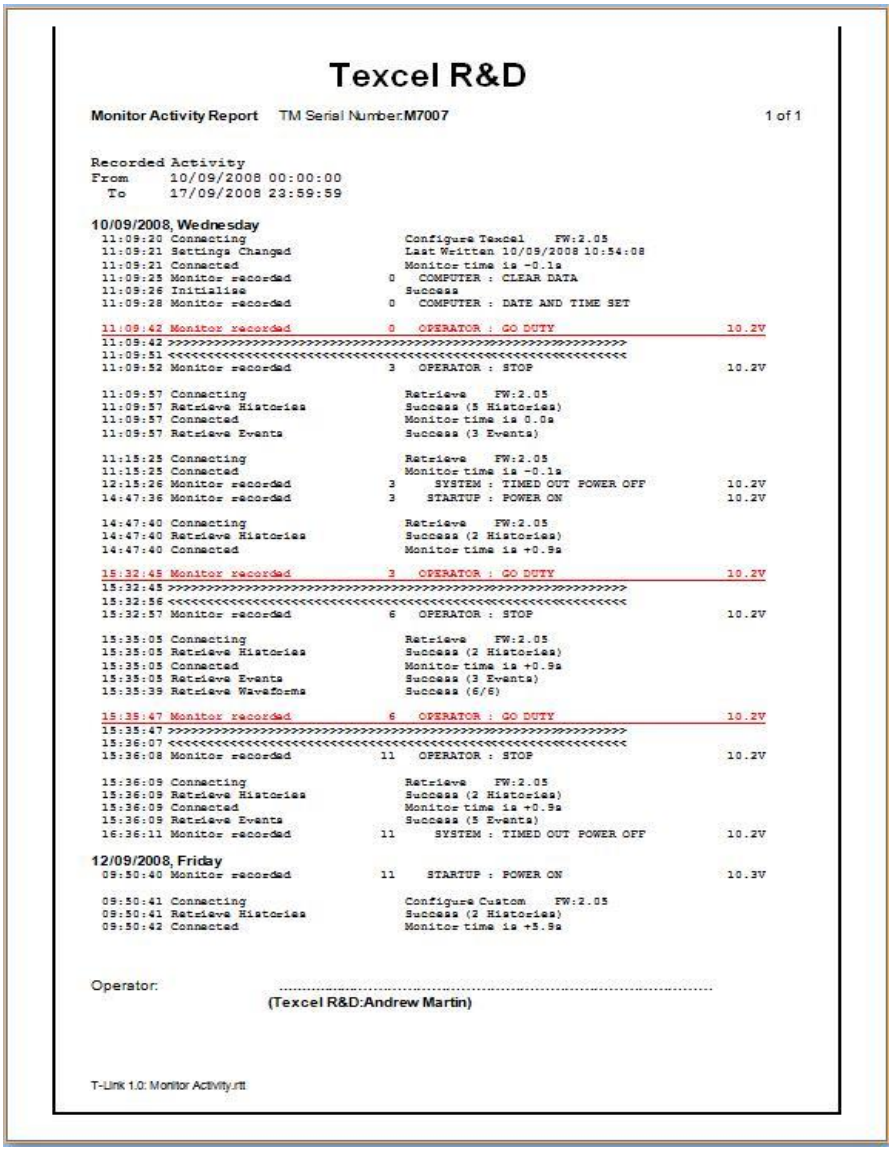
Figure 161: Spreadsheet Report – Graph by Date and Time Diagnostic – dBL



Monitor Report – Activity Summary

A simple Desktop Example: Monitor configured then Duty and captured 3 events which are immediately retrieved. Then the monitor is left on the desk, times out and goes to sleep to save power. Two further sessions capture 3 and 4 events respectively.
A couple of days later, it is turned on again and history retrieved:

Figure 162: Monitor Report – Activity Summary



Texcel R&D

Monitor Activity Report TM Serial Number:**M7007** 1 of 1

```
Recorded Activity
From      10/09/2008 00:00:00
  To      17/09/2008 23:59:59

10/09/2008, Wednesday
 11:09:20 Connecting                    Configure Texcel    FW:2.05
 11:09:21 Settings Changed              Last Written 10/09/2008 10:54:08
 11:09:21 Connected                     Monitor time is -0.1s
 11:09:25 Monitor recorded          0    COMPUTER : CLEAR DATA
 11:09:26 Initialise                    Success
 11:09:28 Monitor recorded          0    COMPUTER : DATE AND TIME SET

 11:09:42 Monitor recorded          0    OPERATOR : GO DUTY                  10.2V
 11:09:42 >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
 11:09:51 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
 11:09:52 Monitor recorded          3    OPERATOR : STOP                     10.2V

 11:09:57 Connecting                    Retrieve    FW:2.05
 11:09:57 Retrieve Histories            Success (5 Histories)
 11:09:57 Connected                     Monitor time is 0.0s
 11:09:57 Retrieve Events               Success (3 Events)

 11:15:25 Connecting                    Retrieve    FW:2.05
 11:15:25 Connected                     Monitor time is -0.1s
 12:15:26 Monitor recorded          3       SYSTEM : TIMED OUT POWER OFF     10.2V
 14:47:36 Monitor recorded          3      STARTUP : POWER ON                10.2V

 14:47:40 Connecting                    Retrieve    FW:2.05
 14:47:40 Retrieve Histories            Success (2 Histories)
 14:47:40 Connected                     Monitor time is +0.9s

 15:32:45 Monitor recorded          3    OPERATOR : GO DUTY                  10.2V
 15:32:45 >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
 15:32:56 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
 15:32:57 Monitor recorded          6    OPERATOR : STOP                     10.2V

 15:35:05 Connecting                    Retrieve    FW:2.05
 15:35:05 Retrieve Histories            Success (2 Histories)
 15:35:05 Connected                     Monitor time is +0.9s
 15:35:05 Retrieve Events               Success (3 Events)
 15:35:39 Retrieve Waveforms            Success (6/6)

 15:35:47 Monitor recorded          6    OPERATOR : GO DUTY                  10.2V
 15:35:47 >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
 15:36:07 <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
 15:36:08 Monitor recorded         11    OPERATOR : STOP                     10.2V

 15:36:09 Connecting                    Retrieve    FW:2.05
 15:36:09 Retrieve Histories            Success (2 Histories)
 15:36:09 Connected                     Monitor time is +0.9s
 15:36:09 Retrieve Events               Success (5 Events)
 16:36:11 Monitor recorded         11       SYSTEM : TIMED OUT POWER OFF     10.2V

12/09/2008, Friday
 09:50:40 Monitor recorded         11      STARTUP : POWER ON                10.3V

 09:50:41 Connecting                    Configure Custom    FW:2.05
 09:50:41 Retrieve Histories            Success (2 Histories)
 09:50:42 Connected                     Monitor time is +5.9s
```

Operator: .....
(Texcel R&D:Andrew Martin)

T-Link 1.0: Monitor Activity.rtt

The **Activity Report Including Filenames** adds the full path and filename for any file that T-Link writes as retrieved data from the monitor; otherwise it is the same as this report.

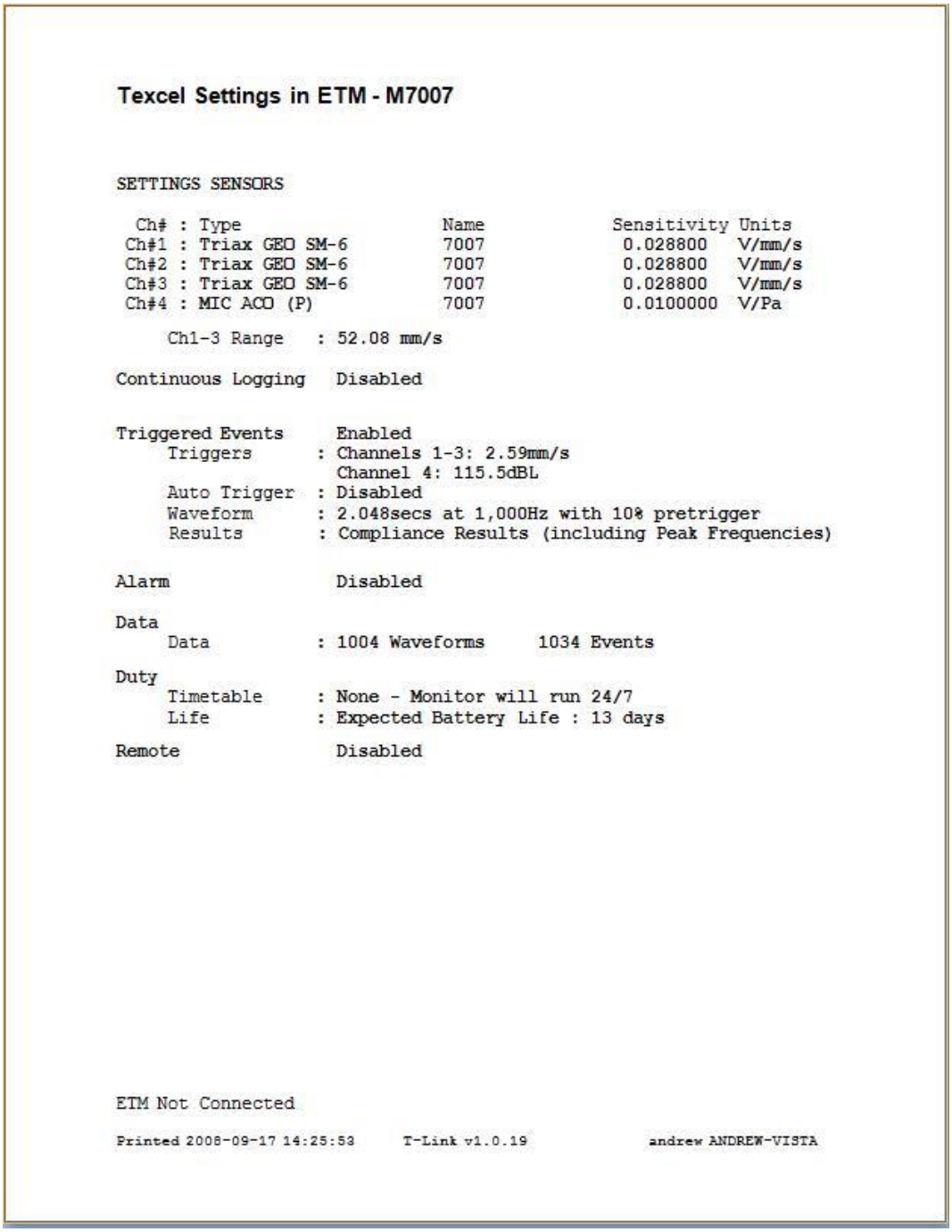
Notes:

- The highlights for Go Duty and Stop. Also the voltage at the end of some lines is the internal battery;
- For Remote Operation significantly more detail is shown including modem signal strength.

Monitor Report - Settings Currently in the Monitor

This is a simple setting (basically Texcel 1 - Bench Top Test):

Figure 163: Monitor Report - Settings Currently in the Monitor



Texcel Settings in ETM - M7007

SETTINGS SENSORS

Ch#	Type	Name	Sensitivity	Units
Ch#1	Triax GEO SM-6	7007	0.028800	V/mm/s
Ch#2	Triax GEO SM-6	7007	0.028800	V/mm/s
Ch#3	Triax GEO SM-6	7007	0.028800	V/mm/s
Ch#4	MIC ACO (P)	7007	0.0100000	V/Pa

Ch1-3 Range : 52.08 mm/s

Continuous Logging Disabled

Triggered Events Enabled
Triggers : Channels 1-3: 2.59mm/s
Channel 4: 115.5dBL
Auto Trigger : Disabled
Waveform : 2.048secs at 1,000Hz with 10% pretrigger
Results : Compliance Results (including Peak Frequencies)

Alarm Disabled

Data
Data : 1004 Waveforms 1034 Events

Duty
Timetable : None - Monitor will run 24/7
Life : Expected Battery Life : 13 days

Remote Disabled

ETM Not Connected

Printed 2008-09-17 14:25:53 T-Link v1.0.19 andrew ANDREW-VISTA

This is the same report as is available in Texcel Settings (see Figure 37) or Custom Settings (see Figure 94).

Note: This report is available even if the monitor is not available.

Remote Connections

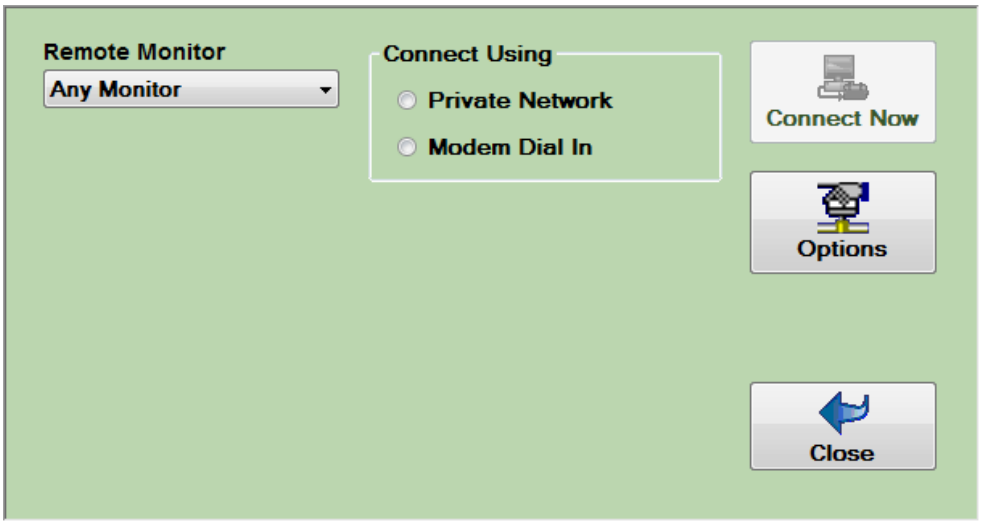
Remote Communications

Press the ***Remote Connect*** button (Figure 164) to show the T-Link Remote Control Panel (see Figure 165).

Figure 164: Remote Connect Button

Here you access Communications Options and all Connections to Remote ETMs.

Figure 165: T-Link Remote Control Panel



When you press the ***Remote Connect*** button, the Remote Control Panel shows with a dropdown of known monitors and Connect Using options.

Note: When you Press the Remote Connect button, T-Link disables its local connection buttons (*Texcel Settings*, *Custom Settings* and *Retrieve*), until you connect to a monitor, or press the ***Close Button*** on Figure 165.

Setting your Communications Options

T-Link will automatically find and use any COM Ports (including connected USB Serial Adaptors when properly installed).

> ☞ **There is no need to use Communications Options unless there are problems connecting to a Monitor, or under Texcel Support advice.**

Press the Communications Options Button (Figure 166) to access the Communications Options.

Figure 166: Communications Options Button

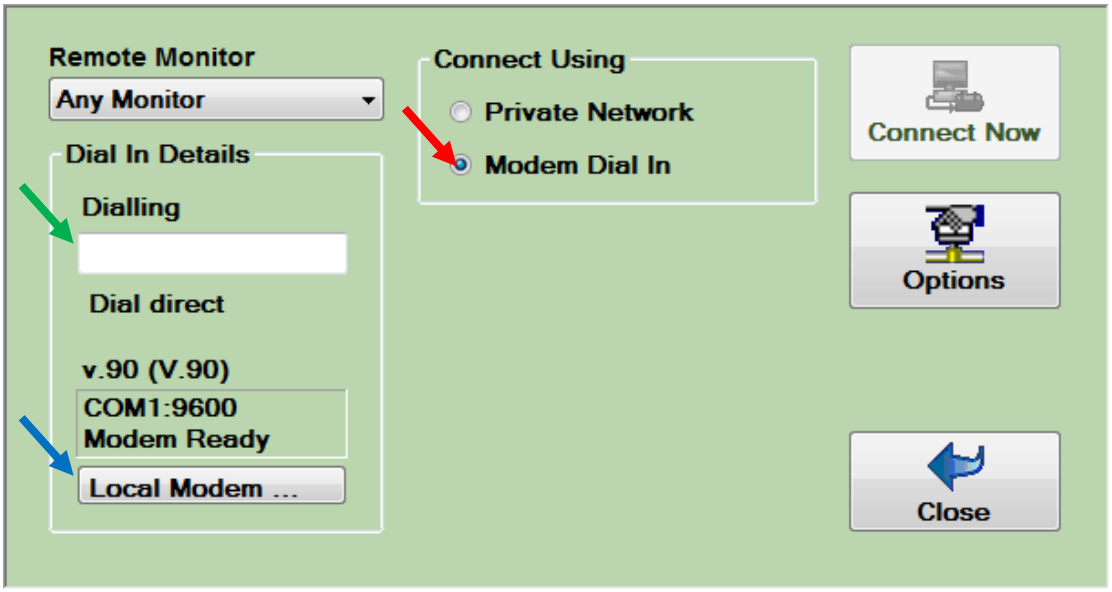
The Communications Options here are identical to the standard Communications Options accessible from the T-Options application – see T-Link Options on page 140.

Setting Up a Local Modem for Dial-In Remote Monitors

To Dial Up a remote Monitor, you need a modem connected to (or inside) your PC/laptop, which is connected to a telephone line.

When T-Link has set up your Local Modem, it will display the detail on the Remote Control Panel as shown in Figure 167.

Figure 167: Remote Control Panel with Dial-In Modem Set up



The first time you select ***Modem Dial In*** (red arrow in Figure 167 above), T-Link will look for and require you to Setup your Local Modem. It will also take you through this process if the modem you last specified has changed, even if all you have done is plug it into a different COM Port;

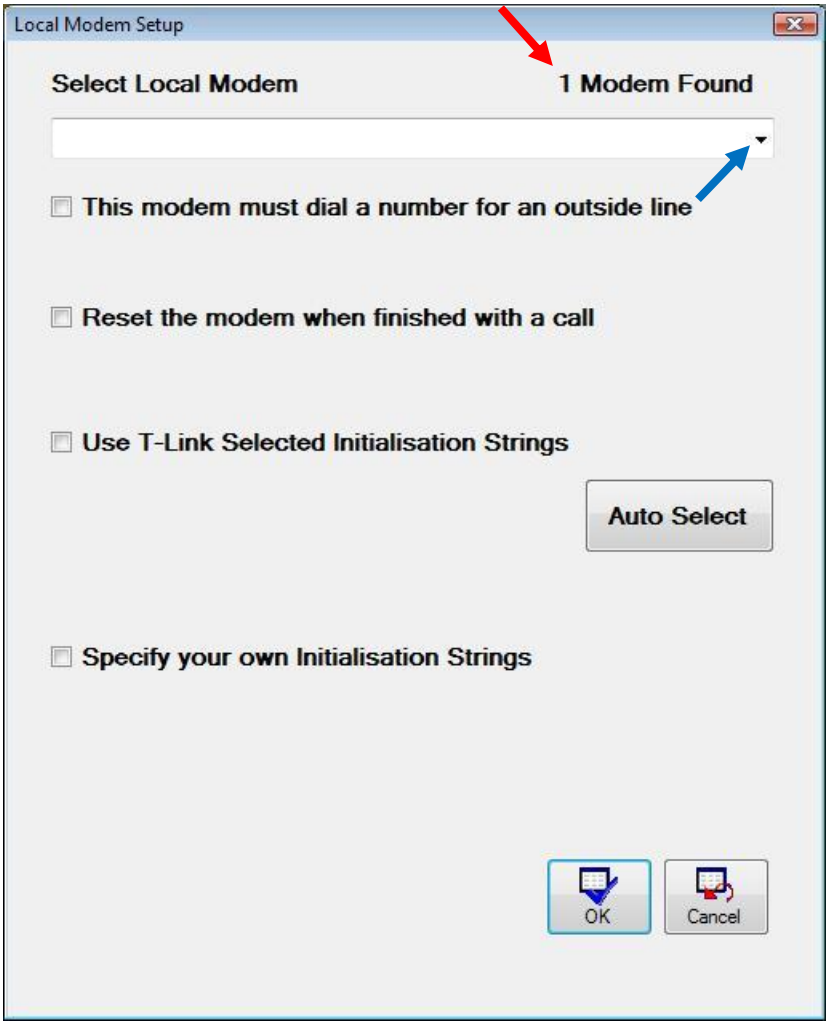
You can also change this detail, or set up a different modem by pressing the ***Local Modem …*** Button at the blue arrow in Figure 167;

Once the Local Modem is set up, you can type a phone number in the ***Dialling*** Box (at the green arrow Figure 167). This option is always available; so that you can connect to a monitor you have never connected to before, however, once you have connected to a monitor, it will appear on the list and be easier to just select – see Figure 175 below.

First Scan for a Local Modem

The setup process for the local modem scans for local modems and will show you how many modems it found. As shown at the red arrow in Figure 168.

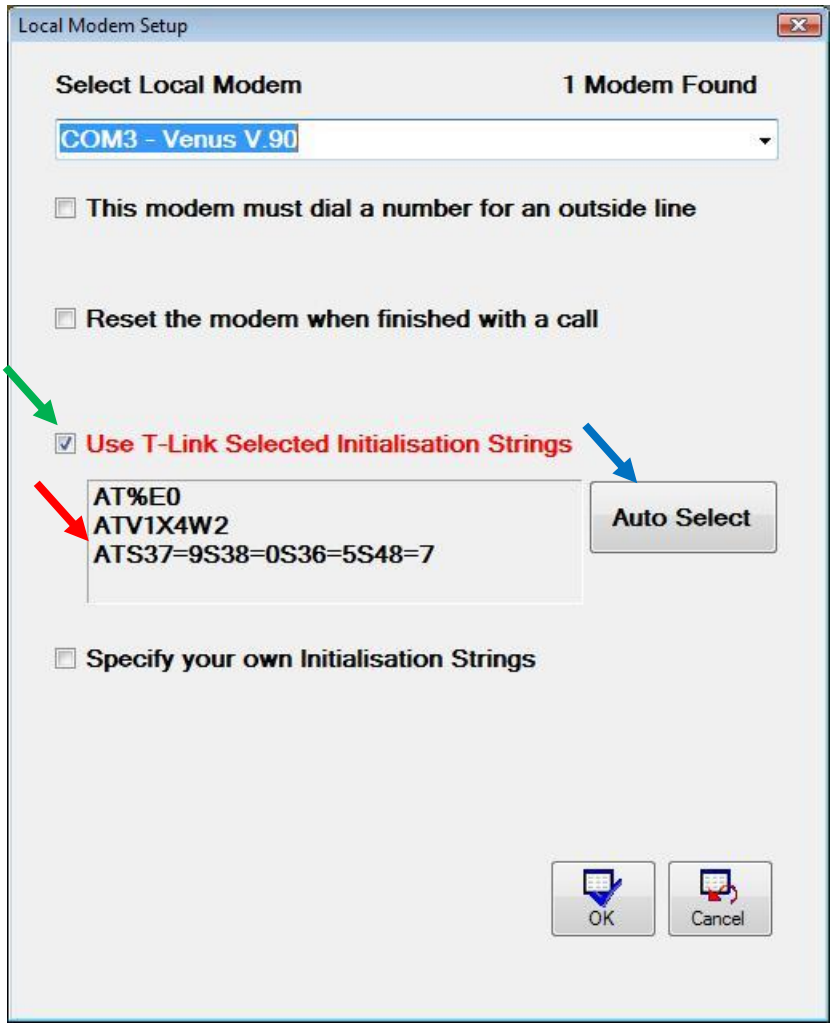
Figure 168: Local Modem Setup Window


Local Modem Setup
Select Local Modem
1 Modem Found
This modem must dial a number for an outside line
Reset the modem when finished with a call
Use T-Link Selected Initialisation Strings
Auto Select
Specify your own Initialisation Strings
OK
Cancel

Click the drop box at the blue arrow in Figure 168 to select the modem you want to use.

T-Link will automatically set up the modem for you and display the details as shown in Figure 169 below.

Figure 169: Local Modem Selected



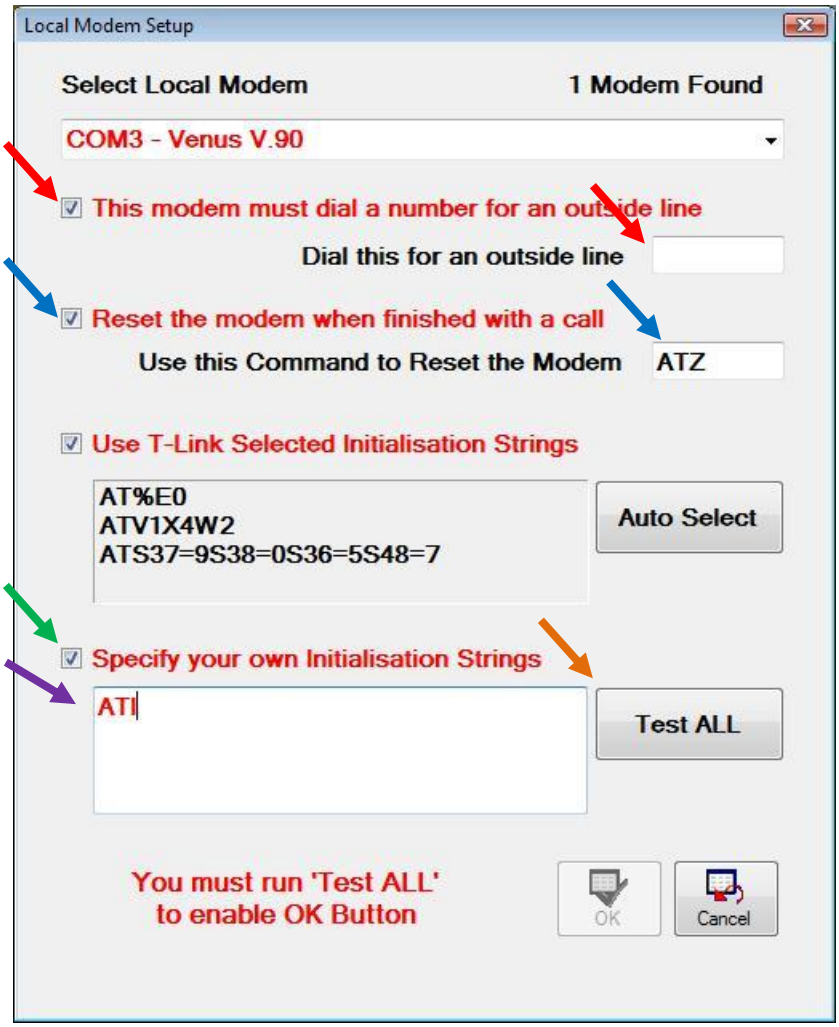
T-Link's auto ***Selected Initialisation Strings*** for your modem are displayed at the red arrow in Figure 169;

Press the ***Auto Select*** Button (blue arrow in Figure 169) at any time and T-Link will retest your modem and re-generate these Initialisation Strings;

You can disable the use of T-Link's auto selected initialisation strings by un-ticking the box ***Use T-Link Selected Initialisation Strings*** (green arrow in Figure 169).
Important: Only do this if you are very sure you know what you are doing, or under Texcel Support direction.

You should check if you need to set any more parameters for your modem. These are shown in Figure 170 below.

Figure 170: Local Modem Advanced Setup



This modem must dial a number for an outside line (red arrows in Figure 170). Tick the box to show the text box into which you can type whatever number (or numbers) you need to dial to access an outside line through your PABX (usually a '9' or '0' – although do NOT type the ''' characters).

Sometimes you will need to append a comma, which will insert a 1 second wait after the access number is dialled to wait for the PABX to provide the outside line;

Reset the modem when finished with a call (blue arrows in Figure 170). If you use this modem to connect to other equipment, and, after T-Link has used it, it won't connect to the other equipment at all, or you have to turn it off and on again before it does, use this option.

Tick the box to show the text box into which you can type the Reset Command. This would normally be ATZ or AT&F. Check your modem manual.

Any changes here will require you to '***Test All***' – see below:

Specify your own Initialisation Strings
You can add or replace T-Link's auto selected initialisation strings if you need to.

> ☞ **Important: Only do this if you are very sure you know what you are doing, or under Texcel Support direction.**

Tick the box at the green arrow in Figure 170, and type the new string or strings into the text box at the purple arrow.
Any changes here will require you to '***Test All***' – see below.

Test All Changes

Before any changes to modem initialisation are allowed to be set, they have to be tested.

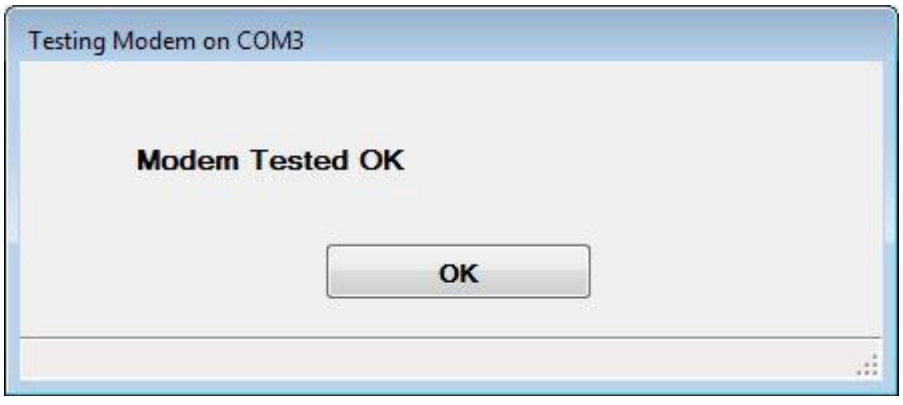
Test All Button (orange arrow in Figure 170). If you make any changes to any of the Initialisation or Reset Strings, T-Link will want to test them on your modem before it will let you save them.

The test All Button will be displayed (and the message in red) and the OK Button will be disabled.

Press the ***Test All*** Button and T-Link will try all your strings – with some informative messages – if any fail, it will tell you which.

If they Test OK, you will see this message, and the ***OK Button*** will be enabled:

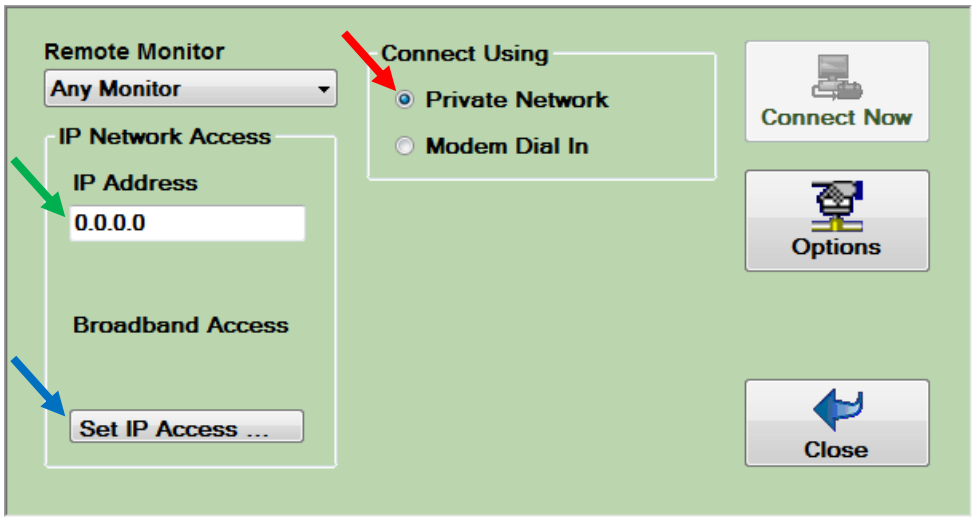
Figure 171: Local Modem Tests OK



Setting Up T-Link for Private Network Remote Monitors

When T-Link has set up your Private Network Access, it will display the detail on the Remote Control Panel as shown in Figure 172 (here set up for Broadband Access).

Figure 172: Remote Control Panel - Packet Mode Broadband Access



The first time you select ***Private Network*** (red arrow in Figure 172), T-Link will look for and require you to Setup Private network Access. If you are using Modem access, it will also take you through this process if the modem you last specified has changed, even if all you have done is plug it into a different COM or USB Port;

You can also change this detail, or set up a different mode (or modem) by pressing the ***Set IP Access …*** Button at the blue arrow in Figure 172;

Once the Private Network Access is set up, you can type an IP Address in the ***IP Address*** Box (at the green arrow Figure 172). This option is always available, so that you can connect to a monitor you have never connected to before.

However, once you have connected to a monitor, it will appear on the list and be easier to just select – see Figure 175 below.

Private Networks and Packet Mode – A Note on Terminology

The *Communications Protocol* used here is **TCP/IP** (*Transmission Control Protocol/Internet Protocol*. Much of the reliability of the *Internet Protocol* comes from it breaking all messages up into little *packets* that can be managed separately.
Hence:

Packet Mode = TCP/IP (= Part of the Internet Protocol Suite)

The ***Private Network*** you use here is a small part of the internet (or its address space) that is isolated by the telecommunications provider (mostly Telstra in Australia) from public access, a bit like the small network inside a company or home, but protected at a much deeper level from external access..
Devices in a ***Private Network*** communicate using ***Packet Mode*** or ***TCP/IP***.

Specifying Private Network Access

To connect to a Monitor using Private Network (Packet Mode) communications, you need:

Either Broadband Internet Access from the PC

Make sure these details are set correctly:

- VPN software installed on the PC provided by your Private network supplier
- A private network account for the VPN and login details

Or A Packet Mode capable Modem connected to the PC

Make sure these details are set correctly:

- A mobile data network account – provides a SIM
- A private network account and login details

> ☞ **Note: These must be set up correctly before you can proceed here. Check with your Network Supervisor or Texcel Support.**

The setup process will take you initially to Figure 173 with broadband selected, after that it will take you to either broadband or modem setup, depending on your current selection.

Before you proceed, make sure you have on hand

For each Remote ETM:

1. Username
2. Password
3. IP Address

The modems must also have a correctly set up SIM and Data Plan installed – refer to Private network documentation

For Modem to Modem Access

The same details as for the remote ETM above

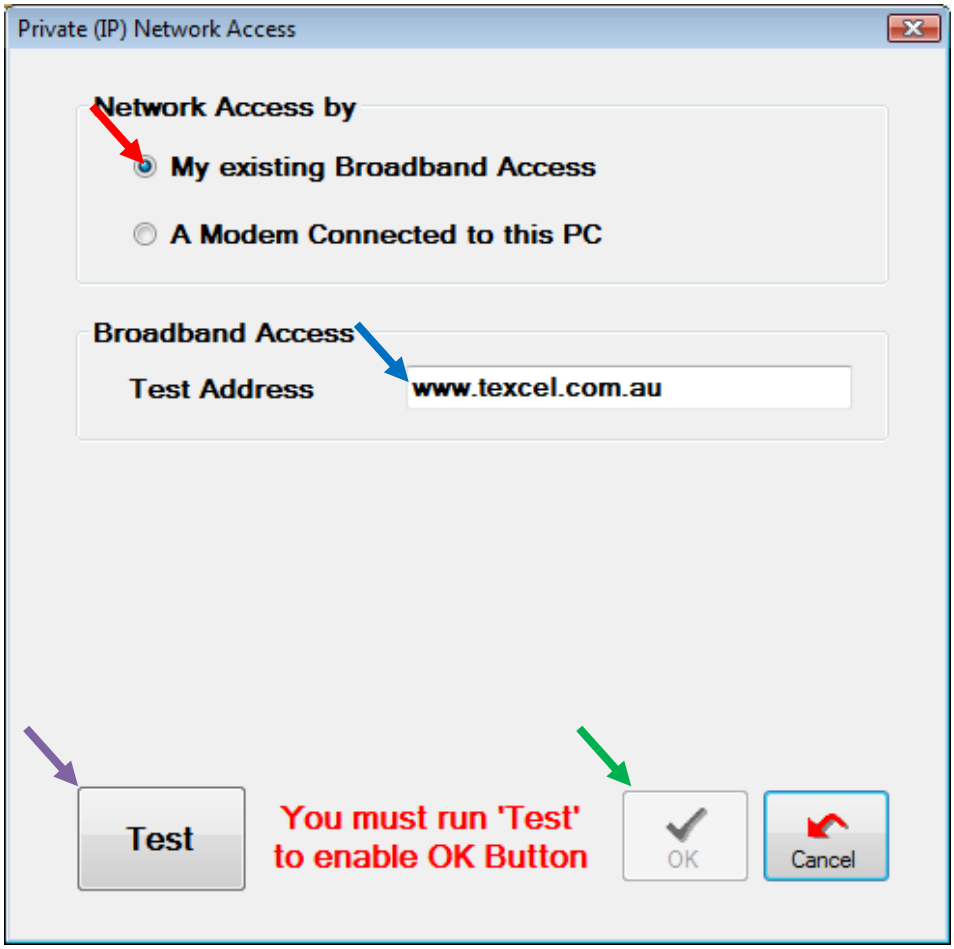
For your VPN Access

> ☞ **The VPN Client must be running on your PC, and connected to your Private network before you can connect to a Remote ETM on that private network.**

VPN via Broadband Internet Access from the PC

To select VPN Private Network access tick ***My Existing Broadband Access*** at the red arrow in Figure 173.

Figure 173: Private Network Access Setup – Broadband Access

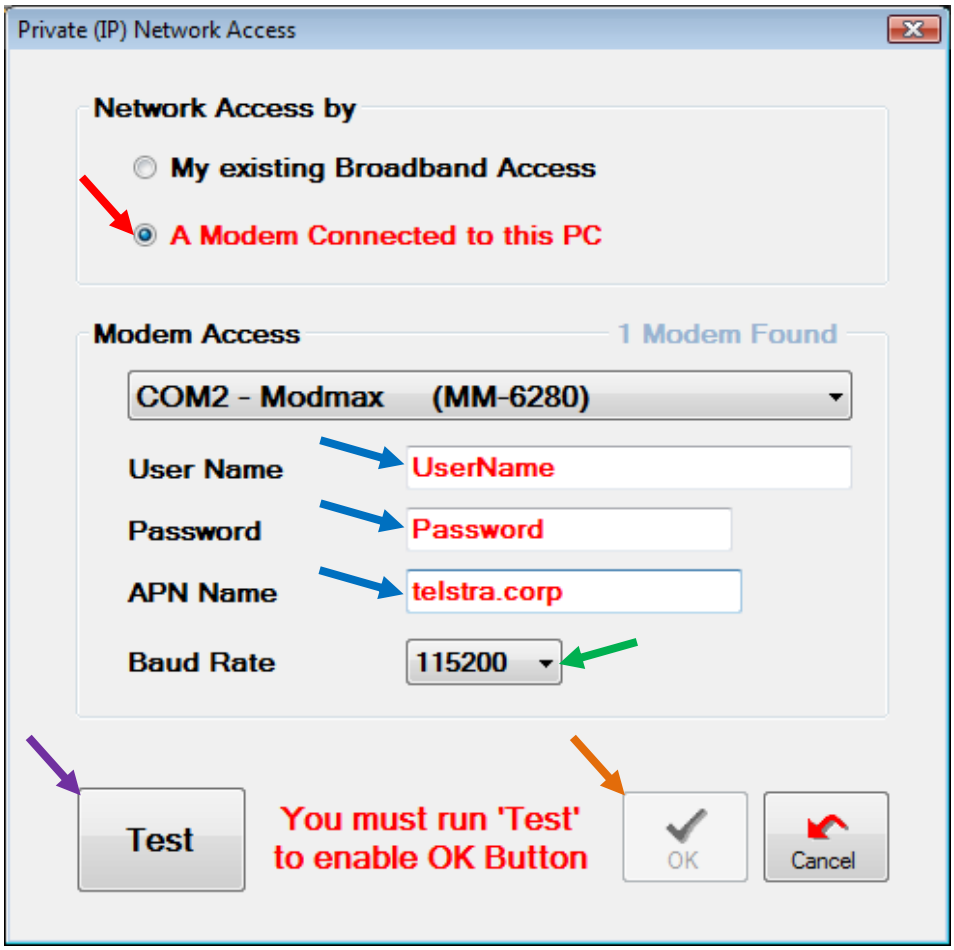


Before you can confirm a Network Access you must run the ***Test*** (Press the button at the purple arrow in Figure 173. If T-Link can access the network successfully, the ***OK*** Button (green arrow in Figure 173) will be enabled.

To test broadband access T-Link simply 'pings' the ***Test Address***. You can change this to a different address by typing a new valid internet address at the blue arrow in Figure 173.

A Packet Mode capable Modem connected to the PC

Figure 174: Private Network Access Setup – Modem Access



Tick the ***A Modem Connected to this PC*** option at the red arrow in Figure 174, to show the ***Modem Access*** details;

The details ***User Name***, ***Password*** and ***APN Name*** will be given to you when you get a Private Network Account – these details need to be filled in correctly at the blue arrows in Figure 174;

Leave the ***Baud Rate*** (green arrow in Figure 174) at the maximum of 115200 unless advised to lower it;

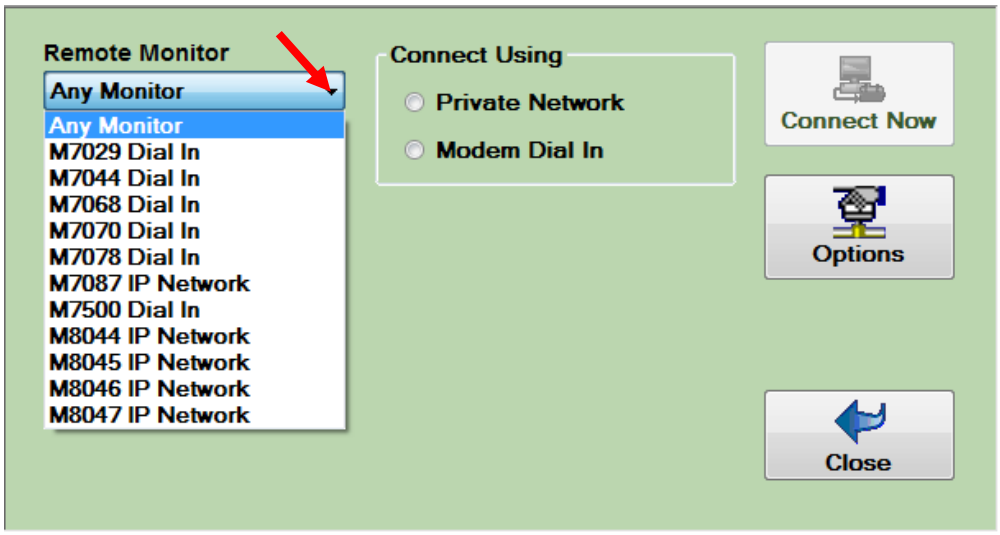
Test All Changes

When you press the ***Test*** Button (purple arrow in Figure 174), T-Link will attempt to Log onto your private network using the account details you provide. If this is successful, T-Link will enable the ***OK Button*** (orange arrow in Figure 174) so you can confirm the setup and return.

Connecting to a Remote Monitor

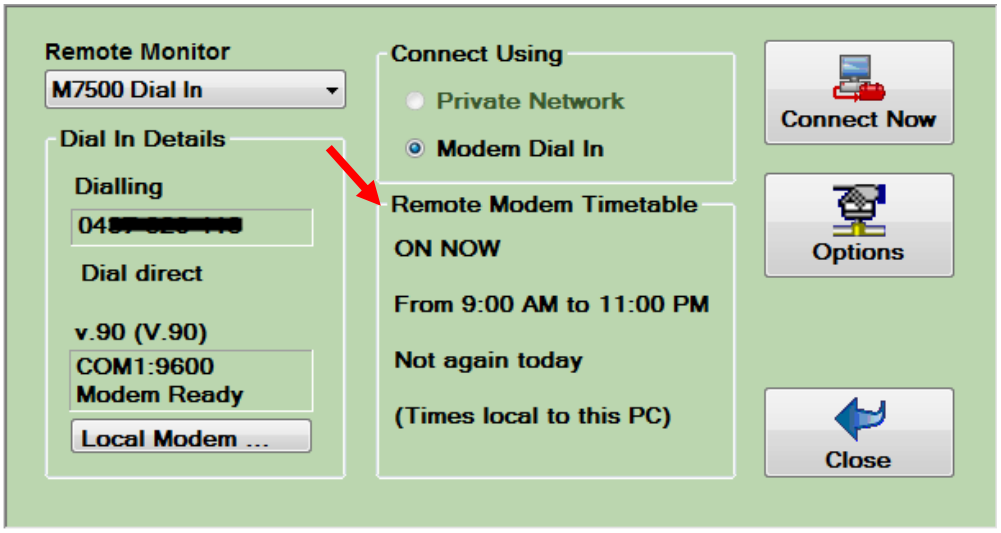
While you can always type in the phone number (as shown in Figure 167) or IP Address (as shown in Figure 172), it will be much easier to select the remote you need from the drop box shown at the red arrow in Figure 175.
This shows all monitors that you have connected to before and remembers all the address and set up details for you.

Figure 175: Select your Remote Monitor



If you select a Monitor, details of the remote timetable are shown, indicating whether the remote monitor's modem is currently available (see Red Arrow in Figure 176):

Figure 176: Remote Monitor Selected - Showing Timetable



Once the details are correct, the Connect Now Button (Figure 177) is enabled.

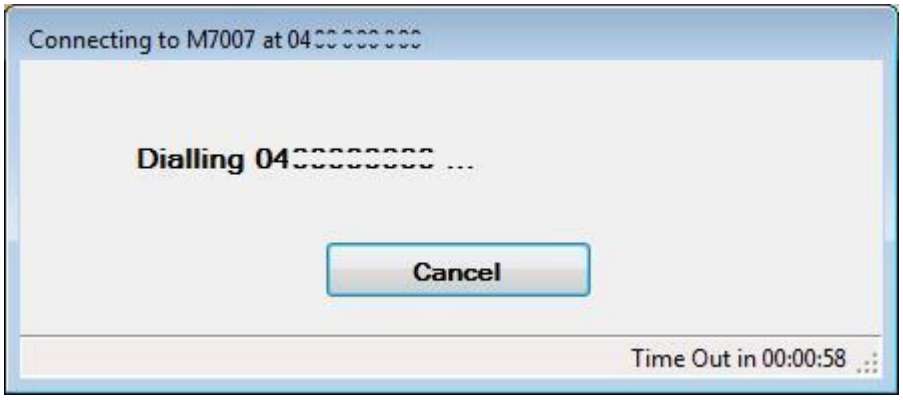
Figure 177: Remote Connect Now Button

Press this button to connect to the remote monitor.

Connection Progress

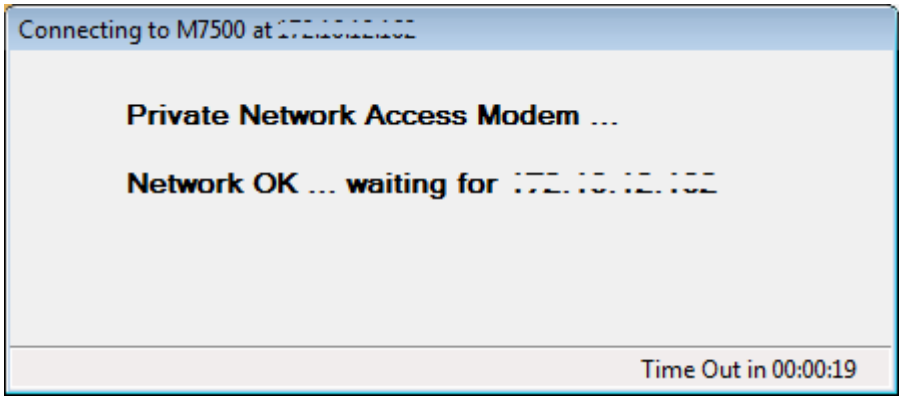
Progress of the connection is displayed in a Status window as shown below in Figure 178.

Figure 178: Remote Connecting Status (Dial In)



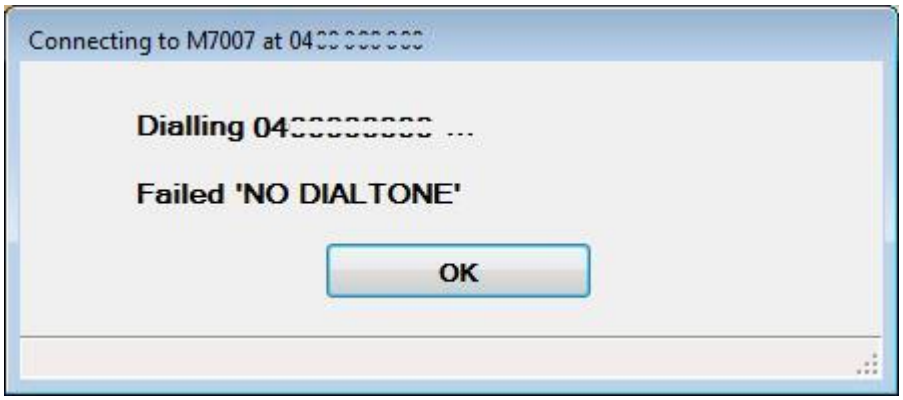
The connecting status is the same for Packet Mode connections:

Figure 179: Remote Connecting Status (Packet Mode)



Any problems with the connection will also be displayed as shown in Figure 180.

Figure 180: Remote Connecting Failed (Dial In)

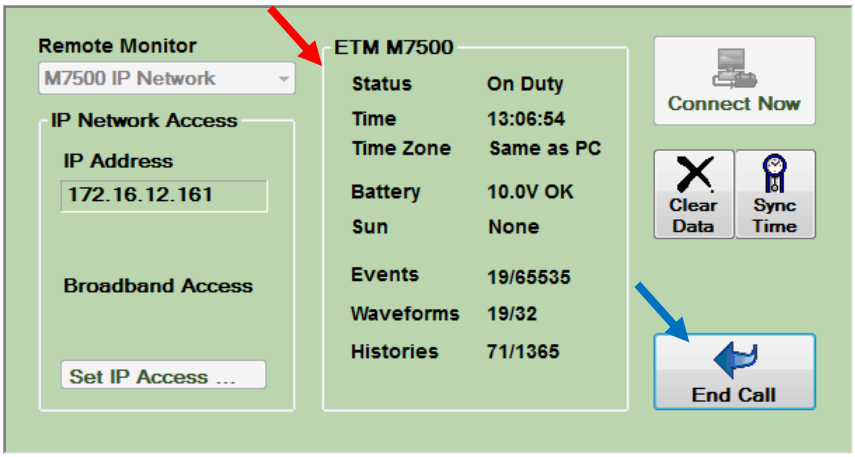


It is important to take note of any failed message here, so it can be easily fixed or reported to Texcel Support – Here NO DIALTONE is fixed by connecting the modem to the phone line (it can also relate to the Outside Line Access).

The Connected Monitor Control Panel

Once Connected the Remote Control Panel displays details of the remote ETM:

Figure 181: Remote - Monitor Connected



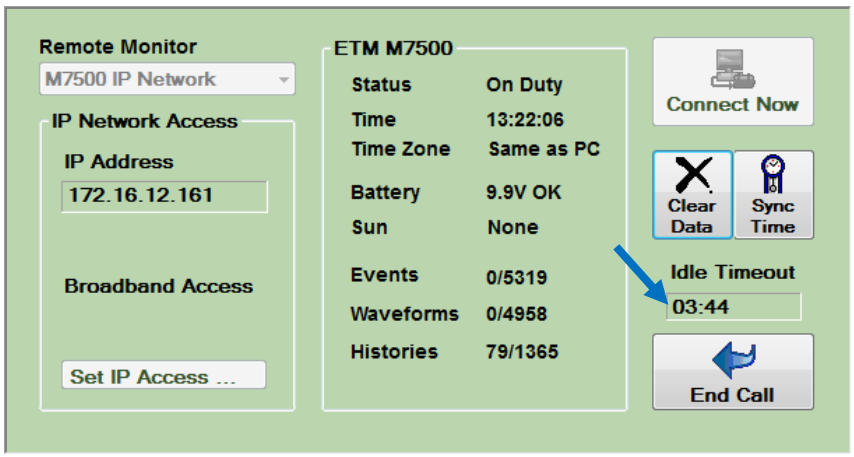
The Connected Monitor Details are shown in the box identified by the red arrow in Figure 181. The remote monitor is polled every second to keep the connection alive.

Heading	Displays:
Status	Whether the ETM is On Duty or At Menu (or Triggered)
ETM	Serial Number of Remote ETM
Time	Time at remote ETM – regularly updated
Time Zone	Time Zone in Settings of Remote
Battery	Battery Voltage at remote ETM – updated every 10s
Sun	Solar Panel Charging at remote ETM – updated every 10s
Events	Number of Events in ETM/Maximum Number in Settings
Waveforms	Number of Waveforms in ETM/Maximum Number in Settings
Histories	Number of Histories in ETM/Maximum Number

Idle Communications Timeout

If you leave the monitor connected and walk away from your desk, T-Link will wait 15 minutes (can be changed in T-Link Options Advanced Communications Options – Remote below) and then hang up.

Figure 182: Remote Control Panel - Idle Timeout



Here the time left before hang up is shown at the Blue Arrow.

Configure, Retrieve and End the Call

You will note that the buttons enabled on the T-Link main screen change when a remote ETM is connected.

Use the Retrieve Button (Figure 183) to Retrieve the data in the monitor.

This behaves the same as described above in T-Link's data retrieval is as easy as 1,2,3 above.

Figure 183: T-Link Retrieve Button

Use the Custom Settings Button (Figure 184) to Re-Configure or change any configuration details in the monitor.

This behaves the same as described above in Custom Settings above.

Figure 184: T-Link Custom Settings Button

You will also notice the main T-Link Close button is disabled when another window is opened.

T-Link requires you to correctly disconnect from the remote by pressing the **End Call** Button on the Remote Control Panel – see the blue arrow in Figure 181 above.

Retrieve While Sampling

By default T-Link will not interrupt a remote ETM sampling (Duty) to retrieve data.

Some things you do, like configuring the ETM, clearing data or synchronising the time will require the ETM to stop sampling briefly.

In each case you will be prompted to ask you if you are sure you want to interrupt the sampling at this time – see Figure 187 below.

You can change this in Advanced Communications Options – Remote below.

Clearing Data from the Remote Control Panel

Use the Clear Data Button (Figure 185) on the Remote Control Panel (Figure 181 above) to clear data in the remote ETM.

This behaves the same as the Data Clear Button on the Retrieve Window – See Clearing the Data in the Monitor above.

Figure 185: Data Clear Button on Remote Control Panel

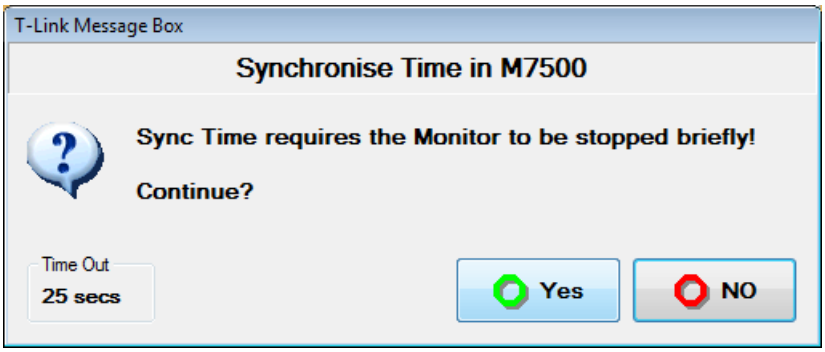
Synchronising Time from the Remote Control Panel

Use the Sync Time Button (Figure 185) on the Remote Control Panel (Figure 181 above) to synchronise the time in the remote ETM.

Figure 186: Sync Time Button on Remote Control Panel

If the monitor is currently **On Duty**, you will be prompted that to synchronise the time, the sampling must be stopped.

Figure 187: Sync Time requires sampling to stop?



If you click **Yes**, the monitor will be stopped to duty, time synchronised and restarted.

☞ **Note: If the remote monitor was configured with T-Link 2, a Time Sync to a different time zone will keep the correct remote time offset.**

T-Options

T-Link Options

T-Link's options are divided into four sections

Communications Options: COM Port and Modem access, Local and Remote communication packet timing and Modem.

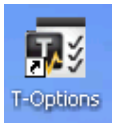
Path Options: Control where T-Link saves its data.

Printing Options: Select Printer, Word Processor and Spread Sheet access and also personalise your reports.

Imperial Units: Switch between Metric and Imperial unit systems.

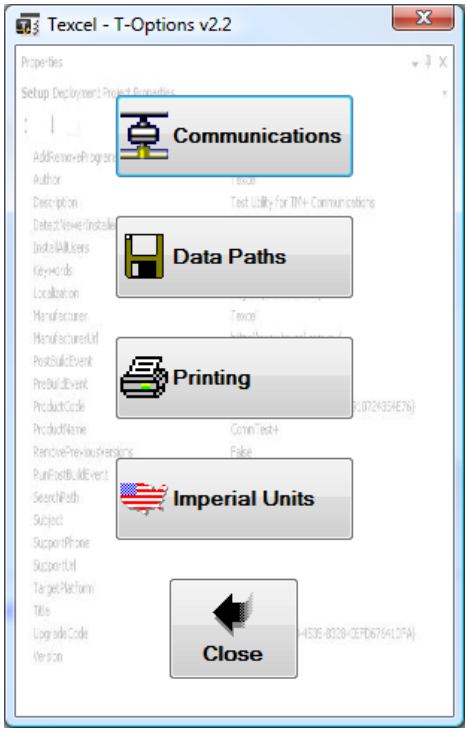
All options are now accessible from the Texcel Programs Menu and from a shortcut (See Figure 188) installed to your desktop when you install T-Link.

Figure 188: T-Options Desktop Shortcut



This will open the T-Options Main Window:

Figure 189: T-Options Main Window



Communications Options

T-Link will automatically find and use any COM Ports (including connected USB Serial Adaptors when properly installed).

> ☞ **There is no need to use Communications Options unless there are problems connecting to a Local Monitor, or under Texcel Support advice.**

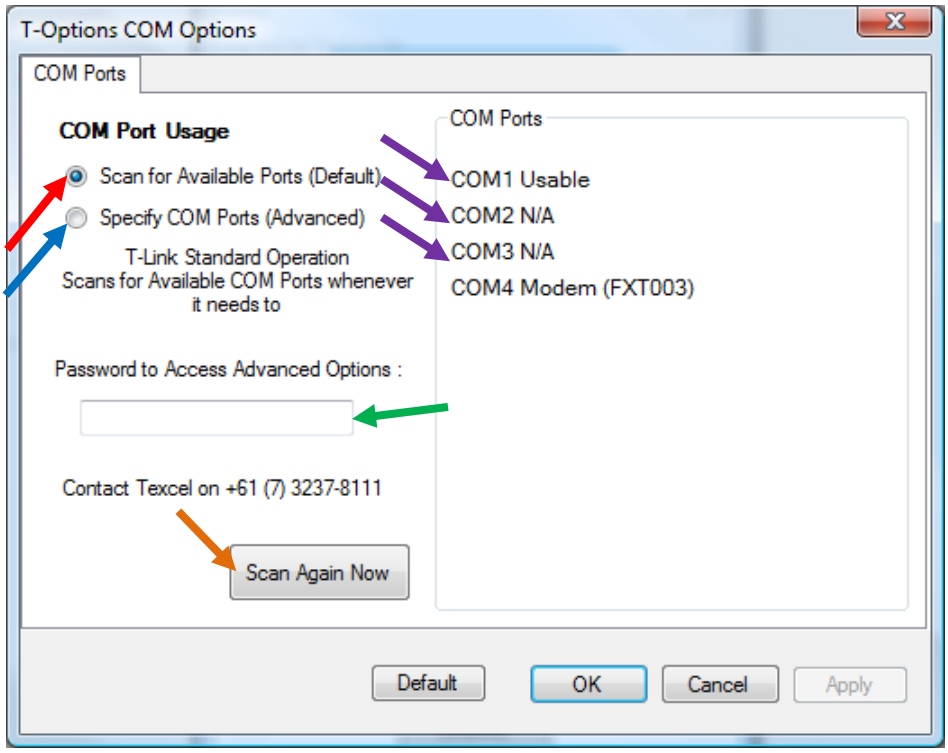
Press the ***Communications Options*** Button (Figure 190) on T-Options Main Window (Figure 189) to access the Communications Options.

Figure 190: Communications Options Button

Communications Options – COM Ports

Note: If you have T-Sched installed, a Scheduler tab will be displayed here as well – see the T-Sched manual for Scheduler Communications options.

Figure 191: Communications Options – COM Ports Scan



Scan for Available Ports (Default) (red arrow in Figure 191). T-Link's normal behaviour is that at start-up (and whenever you try and connect locally) it asks Windows for its list of COM Ports. When you try and connect to a local monitor (connected to your PC), T-Link starts at the beginning of this list and looks for a monitor at each COM port.

This list is displayed on this Options Window as shown on Figure 191 with purple arrows. It is also displayed (except for ones marked modem) when you see the Look Harder Window.

Note on USB to Serial Adaptors: It is important to note that when you connect a USB to Serial Adaptor to your PC/Laptop, Windows allocates it a COM Port Number and it de-allocates it when you unplug it - i.e. if your USB to Serial Adaptor is NOT plugged in, the COM Port it creates will not exist in Windows.

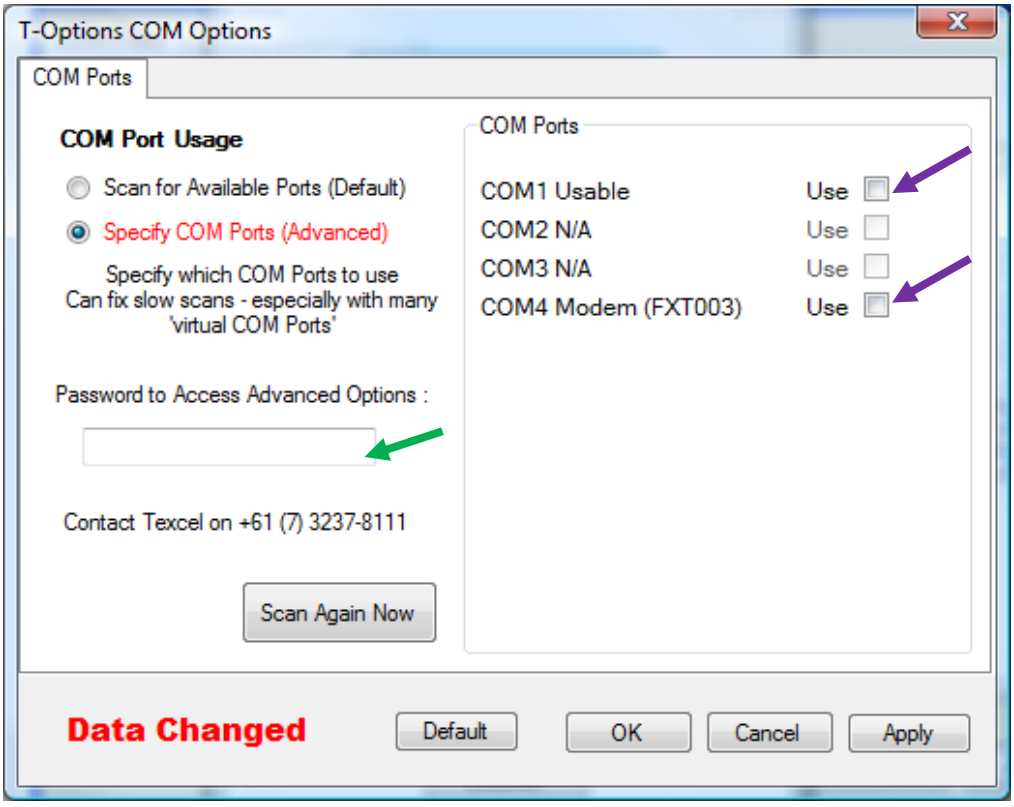
☞ **This means that the default 'Scan for COM Ports' is the safest way to use T-Link with USB to Serial Adaptors.**

Scan Again Now Button (orange arrow in Figure 191). Click this to see any changes to Windows List of COM Ports, i.e. when you plug in a USB adapter.

Sometimes, however, it is useful to override this list – especially if you use a Blue Tooth adaptor, which will create a large number of 'Virtual COM Ports'. This can slow T-Link down (sometimes by minutes) when it starts up and when you try and connect.

Specify COM Ports (Advanced) (red arrow in Figure 191). This will turn the COM Port List into a list of tick boxes, where you can select which ports to use and which to leave out. This is shown by the purple arrows in Figure 192.

Figure 192: Communications Options – COM Ports Specify



Selecting only valid COM Ports here will significantly speed up the COM Port scan process when T-Link starts up or tries to connect to a local monitor.

☞ **You can also disable modems that you do not want to use here. Tick only those that you do want to use;**

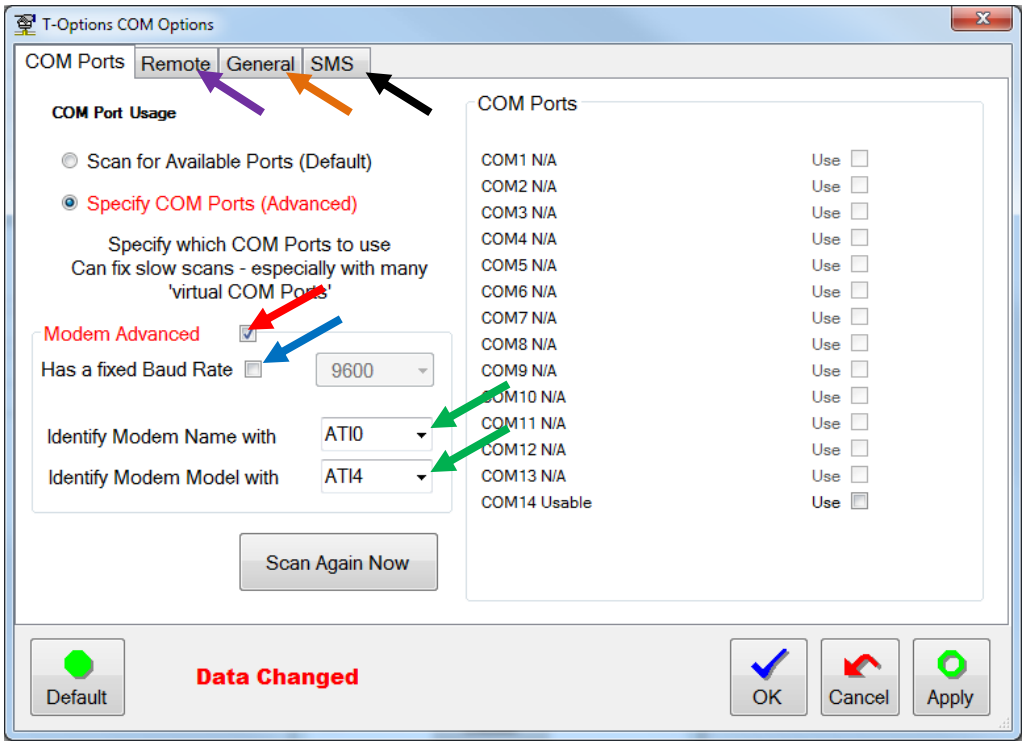
Advanced Communications Options

There are further Communications Options that may be useful in certain situations, but can also cause unexpected results if used inappropriately.

> ☞ **Contact Texcel for a Password to use these Advanced Communications Options. Use these options only as directed by Texcel Support.**

Typing the password into the box shown at the Green Arrows in Figure 191 and Figure 192 above will add the following Advanced Communications Options:

Figure 193: Advanced Communications Options – Modem Advanced



Modem Advanced Options

Access Modem Advanced options by ticking the box shown at the red arrow in Figure 193. These additional fields provide for modems that show particular or unusual behaviour:

Has a fixed Baud Rate (blue arrow in Figure 193). This has been provided for local modems that are not able to auto-baud. The ModMax in serial port mode uses this.

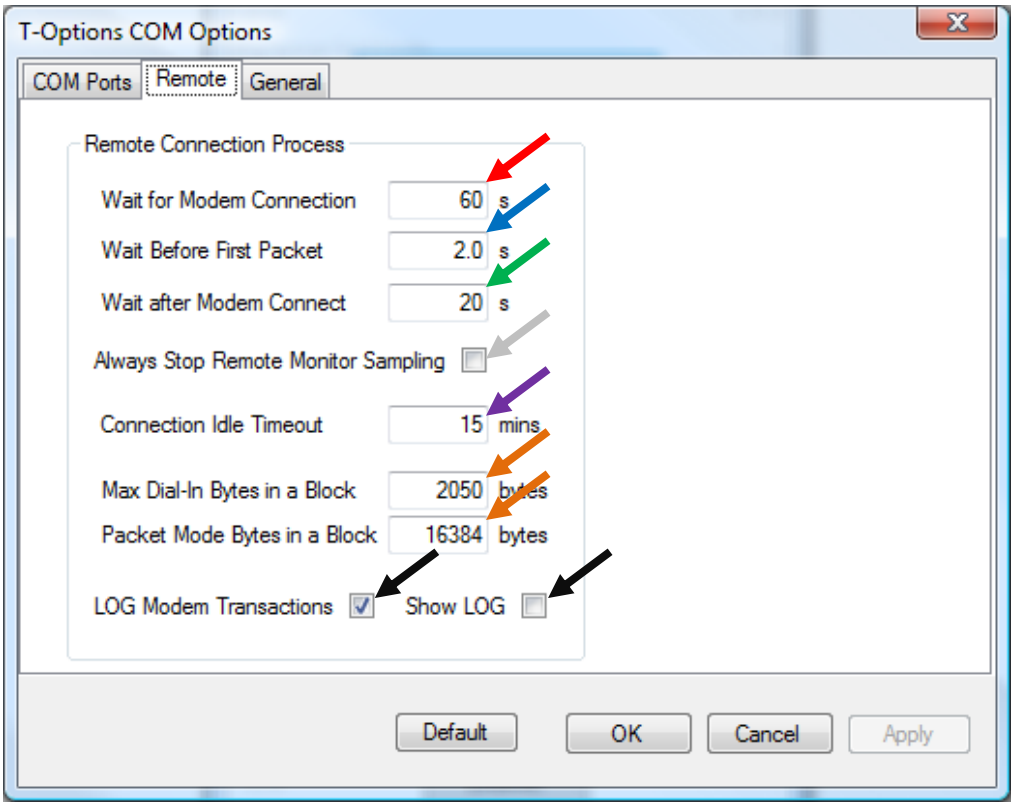
Identify Modem Name/Model with (green arrows in Figure 193). Some modems will be hard to identify, or will repeatedly show up as a 'new modem' every time you try and use them, changing these options can fix this.

Note: Changing these 'Identify fields' will change the ID of all modems currently used and they will appear as 'new' the next time you use them!

Advanced Communications Options – Remote

Click the Remote Tab (purple arrow in Figure 193) to access this window:

Figure 194: Advanced Communications Options – Remote



Wait for Modem Connection (red arrow in Figure 194). When dialling a remote monitor, T-Link waits this long for the modem to report 'CONNECT', and then gives up and reports connect failure. If you consistently get the message *Failed 'Timeout'* when trying to connect to a remote, increase this number;

Wait before First Packet (blue arrow in Figure 194). After the remote modem reports 'CONNECT', T-Link waits this long before looking for the monitor – giving the connection time to 'settle'. Increase a little if you get consistent *Query Monitor Failed 'Timeout'* messages when connecting remote;

Wait after Modem Connect (green arrow in Figure 194). T-Link tries to find a remote monitor for this long after a modem reports 'CONNECT'. Increase if you get consistent *Query Monitor Failed 'Timeout'* messages when connecting remote;

Always Stop Remote Monitor Sampling (grey arrow in Figure 194). When T-Link 2.0 (or newer) connects to a remote monitor, it will not interrupt the monitor sampling - i.e. it will continue to capture events while you retrieve data. Some actions (Clear Data, Configure) will require the monitor to be stopped, and T-Link will inform you of this. Texcel Support may ask you to check this box to disable this behaviour if it cause problems

Connection Idle Timeout (purple arrow in Figure 194). If you connect to a remote monitor and leave T-Link sitting at the Remote Control Panel, T-Link will keep the connection open by polling the remote monitor and updating the time (and other info). If you do nothing to the remote monitor for this long, T-Link will tell the remote to Go Duty and hang up the connection;

Max Dial-In Bytes in a Block and ***Packet Mode Bytes in a Block*** (orange arrows in Figure 194). With some remote connections (especially wireless), the maximum block size (number of bytes you can get at a time) critically affects reliable communications. However, small blocks make the retrieval of data take longer.

For Dial-In the default value (of 2050 bytes) errs on the side of reliability. Increasing this so that waveforms do not require multiple blocks for each channel will improve data retrieval time significantly.

For Packet Mode the default value is increased to 16384. Little advantage will be gained by increasing this number unless you have very large amounts of data. The advice on decreasing the number still applies!

Note: The larger Packet Mode limit will only apply if the main board in your ETM is v6 or greater. Check with Texcel if upgrading to Packet Mode.

However you will need to decrease this number if you see any messages like 'PC Bad First Character' or 'Bad Serial';

LOG Modem Transactions and ***Show LOG*** (black arrows in Figure 194). T-Link 2 will record all the interactions with modems to a disk file automatically. This is very useful for tracking modem issues.

Show LOG – tick this to get T-Link to show the modem LOG as it happens. It shows in a resizable and locatable window.

LOG Modem Transactions – un-tick this to disable logging the modem activity to disk. This will prevent the disk file from being written. ***Not recommended.***

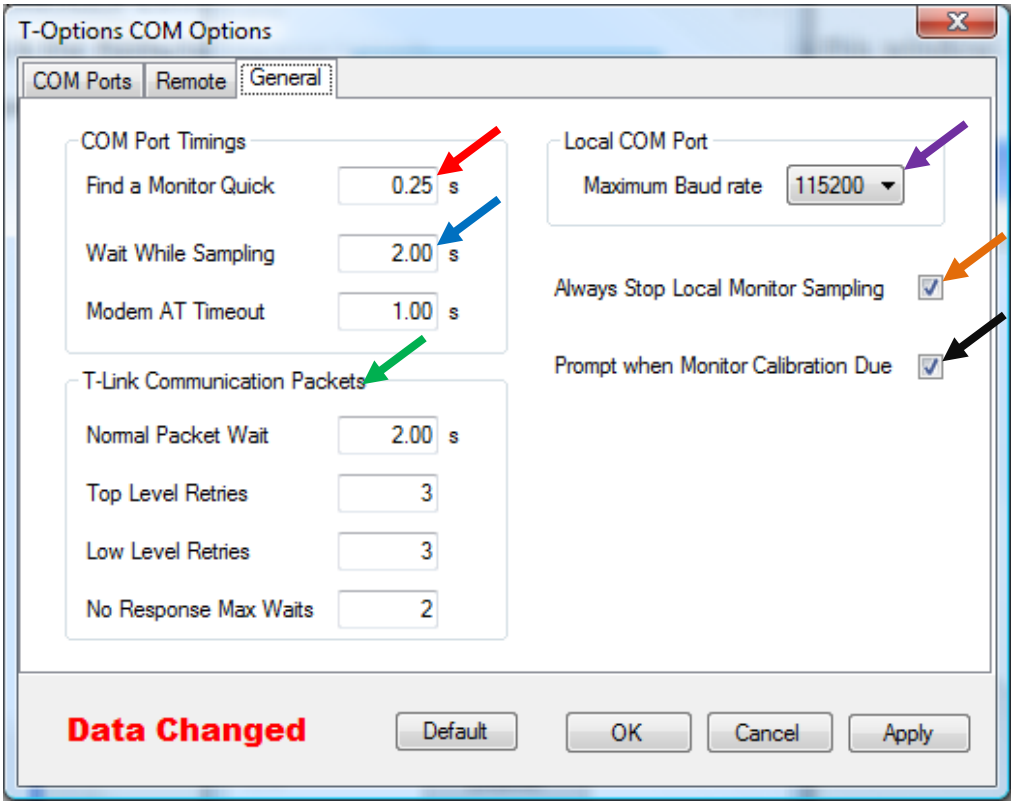
Note: The Modem LOG will be recorded in your local My Documents folder, even if T-Link is saving data to a network server.

The Modem LOG file will be named:
`…\My Documents\Texcel\T-Link\T-LinkModemLOG.txt`

Advanced Communications Options – General

Click the General Tab (orange arrow in Figure 193) to access this window:

Figure 195: Advanced Communications Options – General



Find a Monitor Quick (red arrow in Figure 195). This controls the time T-Link waits for Windows to open the COM Port and the monitor to respond. Increase this number if you always get '*Look Harder*';

Wait While Sampling (blue arrow in Figure 195). The time T-Link waits if it finds a monitor sampling (active) before it checks its state again;

LOCAL COM Port Maximum Baud Rate (purple arrow in Figure 195). When T-Link retrieves data, it speeds up the baud rate to make the retrieval as fast as possible. Controlling this allows extended lengths of cable for local connections;

Always Stop Local Monitor Sampling (orange arrow in Figure 195). This behaves in the same way as the above version for Remote Monitors, but defaults to being ticked. Again this allows managing monitors 'local' but on the end of a long cable;

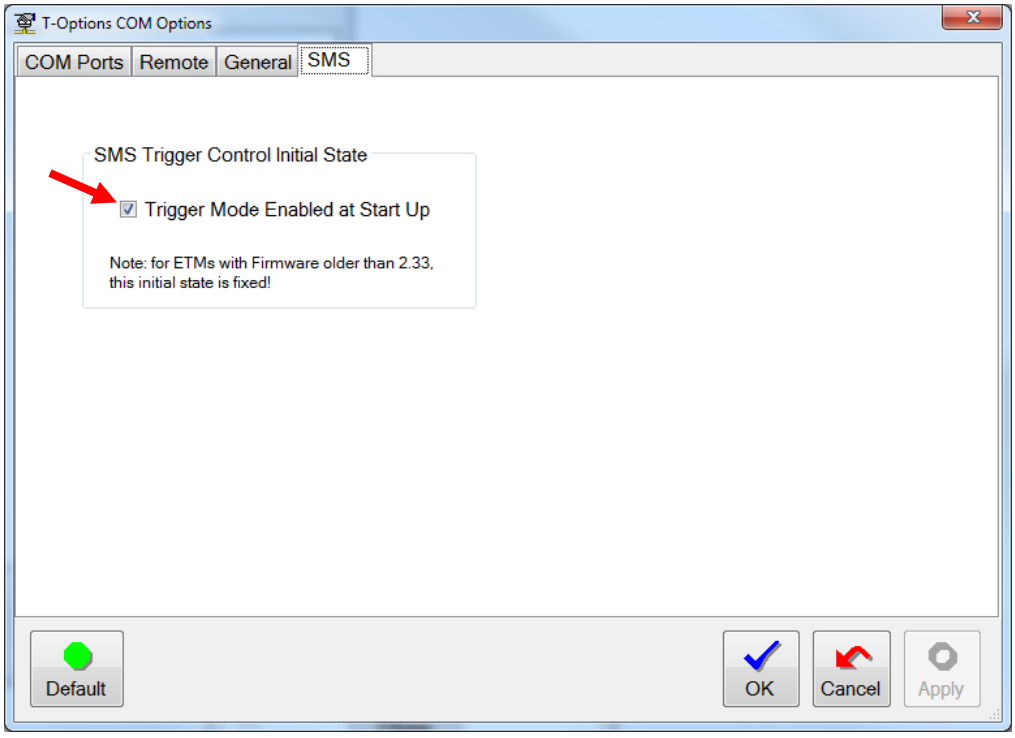
T-Link Communication Packets Properties (green arrow in Figure 195) are advanced fine control of T-Link's packets. Do not adjust any of these parameters without advice from Texcel Support;

Prompt when Monitor Calibration Due (black arrow in Figure 195). Clear this check box to prevent T-Link reminding you when a Monitor is due for Calibration

Advanced Communications Options – SMS

Click the General Tab (black arrow in Figure 193) to access this window:

Figure 196: Advanced Communications Options – SMS



Trigger Mode Enabled at Start Up (red arrow in Figure 196).

This is the Initial State of the Threshold Triggers when SMS Trigger Control is enabled in the settings in your ETM.

If you have an ETM with *FW 2.33* or later, you can choose whether the threshold triggers are enabled or disabled *when the ETM wakes up or goes duty*:

- If *ticked*, threshold triggers will be *enabled*
- If *unticked*, threshold triggers will be *disabled*

☞ **For ETMs with FW older than 2.33, this option will have no effect!**

☞ **Texcel provides a Technical Bulletin (TB0014) with more detail on SMS Trigger Control**

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Path Options

T-Link will create a "*Texcel*" folder and "*T-Link*" sub-folder in the ***Public Documents*** folder of the PC that runs T-Link. This is the default ***T-Link Data Path*** into which T-Link saves all its system, data and report files.

See How T-Link's Data is stored on your Computer above.

☞ **If you upgrade an older version of T-Link using your *My Documents* folder, T-Link will continue to use that**

The ***T-Link Data Path*** can be re-directed to any folder on the PC or connected Network. This might be useful in the following situations:

- System Administrators may find the convenience of a Network folder for the T-Link Data Path easier to manage and back up.
- A shared folder allows users to access the data and reports from multiple PCs on the same network
- Users may want to use specific paths for specific monitoring tasks

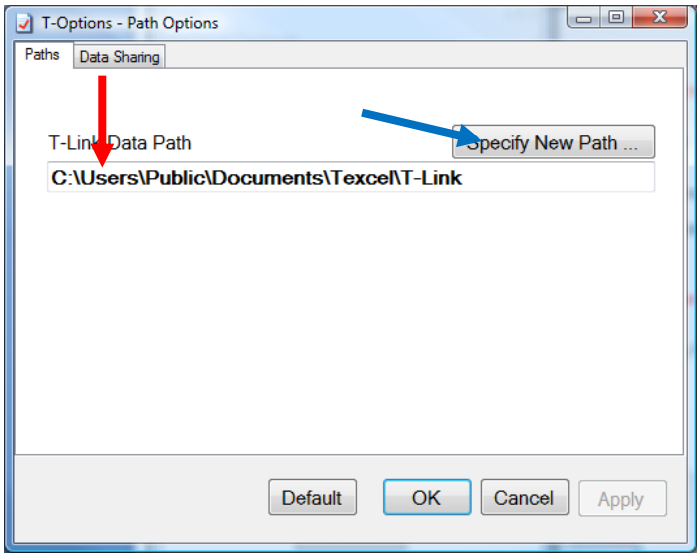
☞ **Unless you need to change any of these things there is no need to use Path Options.**

Press the ***Data Paths Options*** Button (Figure 197) on T-Options Main Window (Figure 189) to access the ***Path Options***.

Figure 197: Data Paths Options Button

Path Options – T-Link Data Path

Figure 198: Path Options – T-Link Data Path



To set the ***T-Link Data Path***, type or paste a valid path (*folder name*) into the text box shown at the red arrow (Figure 198), or press the '***Specify New Path***' button shown by the blue arrow (Figure 198) and select a folder from the "***Browse For Folder***" window presented by Windows.

T-Options will create the folder, if it does not exist, and that its name is not longer than 80 characters before it will allow you to apply the new ***T-Link Data Path***.

- ☞ **Selecting a new T-Link Data Path does not copy any files from the current T-Link Data Path.**

If you move your Data Path, T-Suite will assume that the path is being moved to a location where the data may be shared.

- ☞ **Moving your Data Path will Set Data Sharing**

You can un-tick the ***Data Path is Shared*** box if you are certain the data will not be shared – data sharing can slow T-Link down marginally. See Path Options – Data Sharing.

Taking your existing Data to a New Path

If you create a new folder for your moved Data Path, you can just copy the entire contents (all files and folders) from the old ***T-Link Data Path*** to the new ***T-Link Data Path*** BEFORE restarting T-Link.

Use T-SiteExplorer (T-Site) to Import the Old Data

Once the new Data Path is set, run T-SiteExplorer (T-Site button in T-Suite) and use the Import button to select your old Event Data files. T-SiteExplorer will create the sites and locations and copy the data, and link it into the T-Link index system. It will also copy all the attached waveforms and existing reports.

- ☞ **You can report from, and Retrieve to the existing sites and locations.**

Your existing Data will remain in place

If you move your Data Path, T-Options will leave all the data un touched. You have to delete or back it up yourself.

Moving Your Monitor Information, Timetables and Saved Settings

- ☞ **Ensure all T-Link applications are not running when you are copying or moving files from Windows!**

Copying or Moving Monitor Information

T-Link saves all the information (settings, history, and schedule information) in files named for the monitor serial number in the *System* Folder E.g.:

C:\Users\Public\Documents\Texcel\T-Link\System

You will find a few files with the monitor serial number as a name. For example if your monitor serial number is 7500, you might find these

- M7500.hst
- M7500.tdb
- M7500.evt
- M7500.hsb

There may also be dated .hsb files and .txt or .rtf reports generated from Monitor Reports above.

To transfer a monitor to a new installation, copy at least those of the above named files that are present to the new system folder. There is no issue with copying all the other e.g. M7500… files to keep the full history and reports.

Copying or Moving Saved Settings

T-Link saves Saved Settings in uniquely named files in the *System\Settings* Folder E.g.:
C:\Users\Public\Documents\Texcel\T-Link\System\Settings

The files have a .tdg extension and are named the same as the name you give them when you save them.

☞ **Do not rename them but you can copy them to another T-Link installation**

T-Link reads these files when it starts up, so do not copy them into a T-Link Installation while T-Link is running.

Copying or Moving Managed Timetables and your Phone Books

T-Link saves these items in *Texcel Data files* in the *T-Link System folder* E.g.:

C:\Users\Public\Documents\Texcel\T-Link\System\MyTimetables.tda
C:\Users\Public\Documents\Texcel\T-Link\System\SMS Phones.tda
C:\Users\Public\Documents\Texcel\T-Link\System\IP Logins.tda

See Where T-Link's Data is stored on your Computer

These files can be copied into a new *T-Link System Folder* if there is not one of the same name there (***while T-Link is NOT running!***), or else copy them to a convenient location (e.g. on a USB Stick) and Import it into your T-Link System as follows:

The Managed Timetables, SMS Phone Book and IP Logins Phone Book each have an Import Button.

For Timetables see	Figure 69: Managed Saved Timetables Window
For SMS Phone Book	Figure 81: SMS Phone Book
For IP Login Phone Book	Figure 77 IP Logins Phone Book

The Import process works the same way for each of these data types.

Press the **Import Button** on the above windows. This will open a File Open Dialog, which will only show Texcel Data Files (*.tda). Browse to your copied *Texcel Data File* and select it. All the data in the Data File will be imported.

- ☞ **Any items with the same name as one in your existing collection will be ignored**
- ☞ **Rename an existing item, to import one of the same name**

The Import Process will ignore any Texcel Data files that do not contain the right kind of data.

- ☞ **You cannot damage the system by selecting the wrong Texcel Data File**

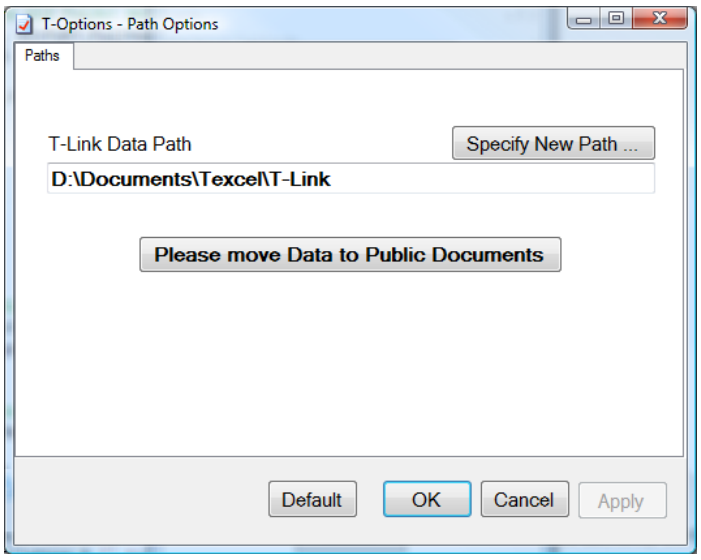
If your Data Path is still in My Documents

T-Link 2 recommends (and by default uses) Public Documents for these reasons:

- If multiple users Log into the same PC and use T-Link, they can all access the retrieved data and reports
- Some networks move My Documents paths onto server drives, and then a laptop or PC disconnected from the network will not be able to retrieve data

When T-Link 2 installs over an older T-Link installation using My Documents (or if you move your path to your My Documents), T-Link Path Options will show an extra button, like this:

Figure 199: T-Link Data Path still in My Documents



Press ***Please move Data to Public Documents*** Button to move your ***T-Link Data File Path*** and ***T-Link Local LOG Files Path*** to the Default Public Documents folder.

You will be asked to confirm this operation. AND you will be prompted concerning the moving of your LOG Files – see below.

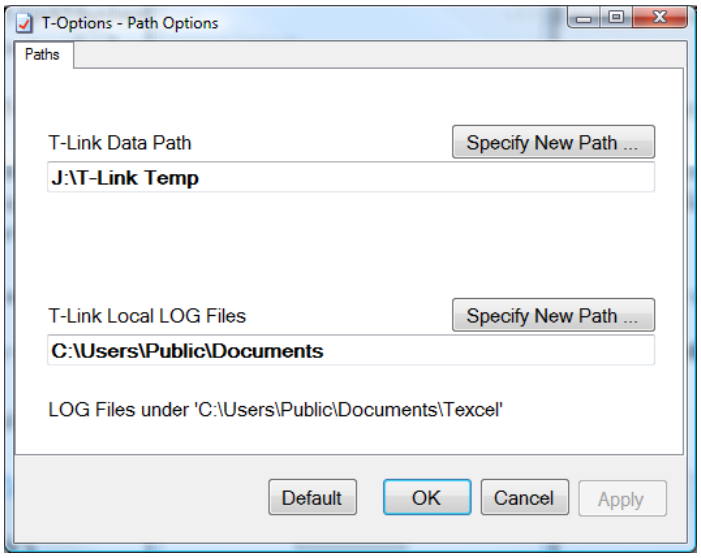
Changing the T-Link Local LOG Files Path

Normally the Local LOG Files Path (See T-Link's Local LOG Files) above is not visible in T-Option's Path Options window.

It will be shown:

- If you have moved your T-Link Data Path, so it is in a different place
- If there is an error with the T-Link Local LOG Files Path

Figure 200: T-Options Path Options - showing LOG Files Path



☞ **It is recommended to leave the LOG Files Path in your Public Documents Folder**

If you do move your LOG Files Path

☞ **T-Link will add the path Texcel\T-Link under the path you select**

This is because the path is shared will other T-Link applications (like T-Sched).

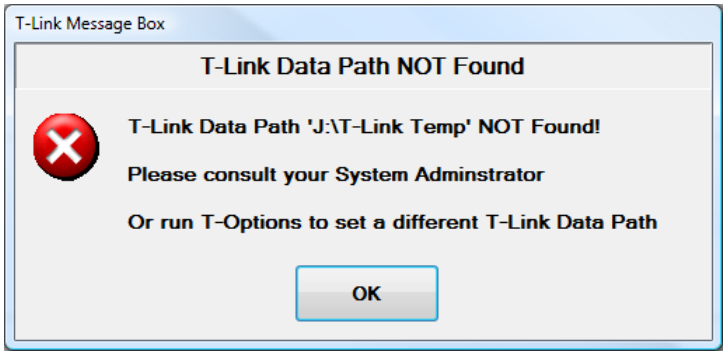
It will copy the existing LOG files, so no history is lost, and rename the paths in the old LOG Files Path to .OLD.
E.g.
`My Documents\Texcel\T-Link`
Will be renamed to
`My Documents\Texcel\T-Link.OLD`
So that it is obvious that the data in there is no longer current

☞ **Ensure you have no files open in the old path when you do this!**

Path Errors on T-Link Startup

The ***T-Link Data Path*** is checked for existence, and permissions (Read, Write and Create) every time T-Link starts up. If any of these checks fail, T-Link will display a message, and stop.

Figure 201: T-Link Startup - Data Path Error


T-Link Message Box
T-Link Data Path NOT Found
T-Link Data Path 'J:\T-Link Temp' NOT Found!
Please consult your System Adminstrator
Or run T-Options to set a different T-Link Data Path
OK

Either:

- Restore the connection to your Data Path

Or:

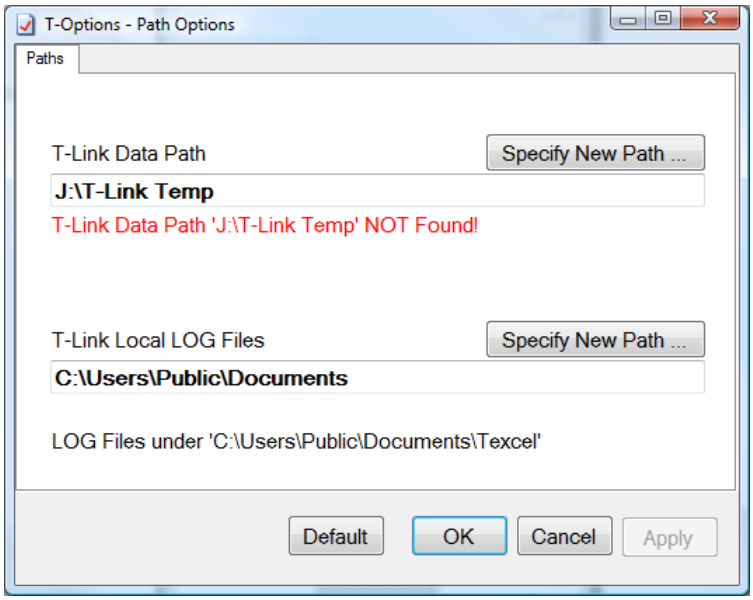
- Run T-Options and select a new Data Path.

When you run T-Options, the Data Paths button will show up red:

Figure 202: T-Options Data Path Button shows Error

And when you go to Data Path Options, the same error message is displayed:

Figure 203: T-Link Data Path Options - With Path Error



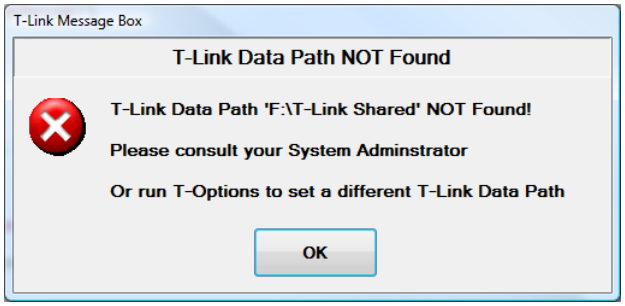
Possible Data Path Errors

These errors are the same for whichever T-Suite application you start up. They all share the T-Link Data Path.

These errors will all prevent T-Link or T-Sched from starting, and will also leave a message in the System LOG File.

T-Link Data Path NOT Found Error

Figure 204: T-Link Startup Error - Path NOT Found


T-Link Message Box
T-Link Data Path NOT Found
T-Link Data Path 'F:\T-Link Shared' NOT Found!
Please consult your System Adminstrator
Or run T-Options to set a different T-Link Data Path
OK

This means that the Data Path specified cannot be found. Perhaps the network drive is inaccessible or disconnected.

Your T-Suite applications will not start until this path is reconnected or you specify a new accessible Data Path in T-Options.

☞ **You can always access T-Options directly from the Programs Menu**

T-Link Data Path NOT Accessible Error

This message behaves the same as the NOT Found error above.
The message means the path is found BUT you do not have permission to write files into the folder.
This must be fixed before any T-Suite application will run.

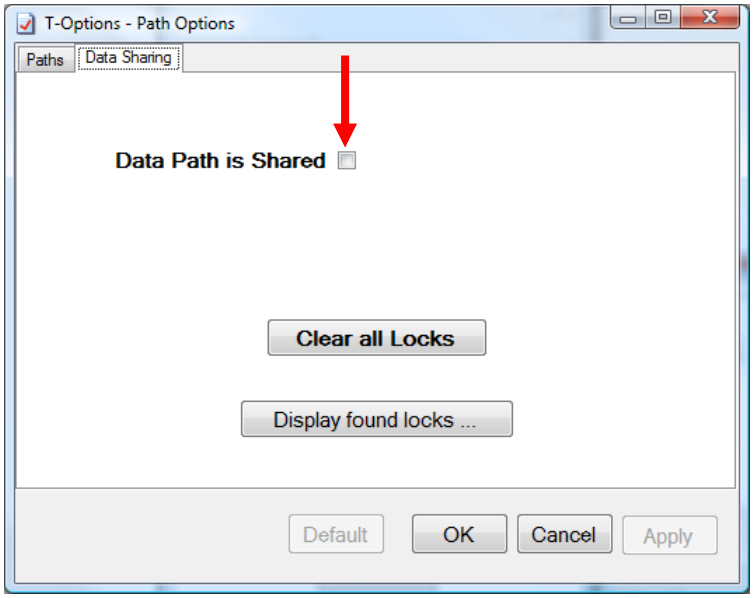
Disk Space is CRITICAL in T-Link Data Path Error

See T-Link Startup runs a Disk Space Check above.

Path Options – Data Sharing

Locking is disabled when you first install T-Link 2.2.
You can enable locking in T-Options, under Path Options on the Data Sharing Tab, by clicking **Data Path is Shared** at the red arrow.

Figure 205: T-Options Data Sharing

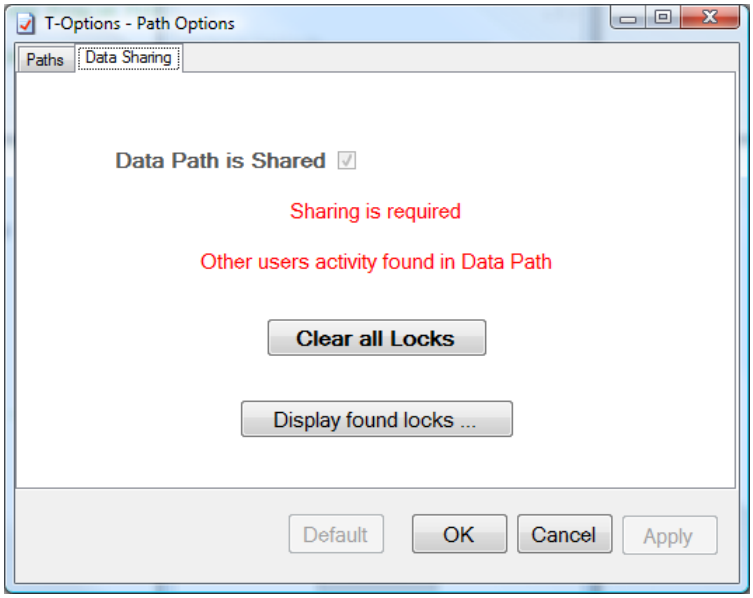


If you move your Data Path, Data Sharing is automatically set. You can turn this off if the location is not shared.

Sharing may be Enforced

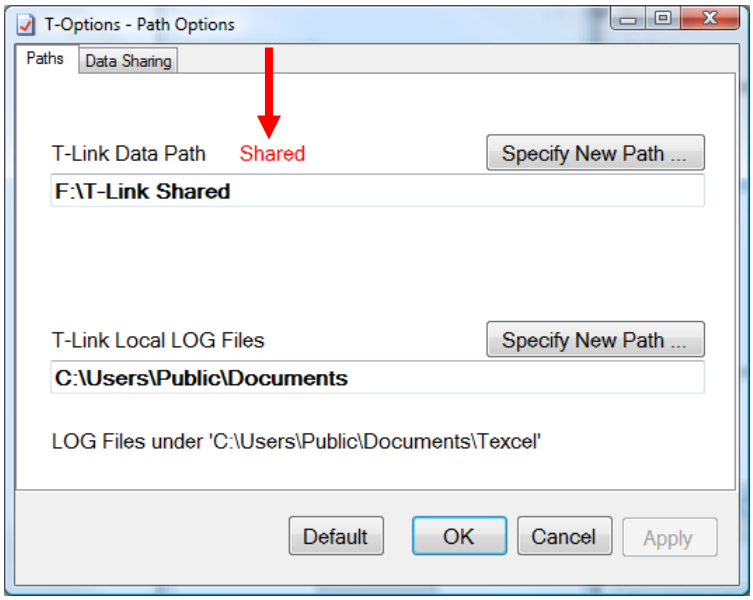
When T-Link, T-Sched or any other T-Suite Application is run and other locking activity is found, Sharing is enforced whether you have set the **Data Path is Shared** flag above or not. If you go into T-Options, this fact will be displayed like this:

Figure 206: Data Sharing Enforced



The red **Shared** indication is always visible on the Paths page if the **Data Path is Shared** for any reason.

Figure 207: Data Shared Shown on Paths Tab



As shown, the Local LOG Files path is also visible after the T-Link Data Path is moved.

How do you turn off Locking?

Clear the **Data Path is Shared** tick box in Figure 205: T-Options Data Sharing above to turn off locking.
If **Sharing is Enforced** (See Figure 206: Data Sharing Enforced above) you will have to **Clear all Locks** before you can turn off Locking.

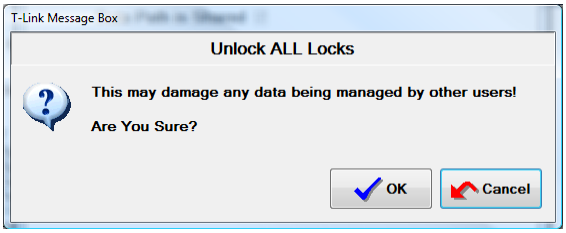
Clearing all Locks

Click the **Clear all Locks Button** (Figure 205 above) to clear all currently active locks, and release the enforced sharing.

☞ **This can lead to damaged or lost data**

You will be prompted like this to confirm this action:

Figure 208: Confirm Clear All Locks



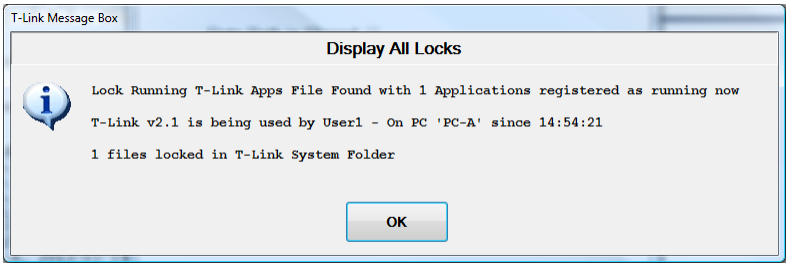
This message means that if you **Clear all Locks**, and another user is currently depending on these locks you may cause damaged data!

You can use the **Display found locks** button to check who else may be using this Data Path.

Display found Locks

Click the **Display found locks** button (Figure 205 above) to display currently active locks, like this:

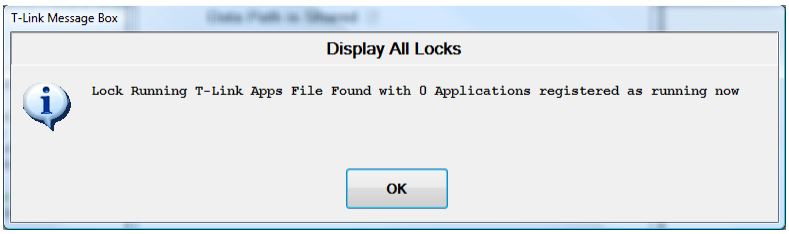
Figure 209: Display found Locks


T-Link Message Box
Display All Locks
Lock Running T-Link Apps File Found with 1 Applications registered as running now
T-Link v2.1 is being used by User1 - On PC 'PC-A' since 14:54:21
1 files locked in T-Link System Folder
OK

Here you are told there is one active user, and one active file lock. Any Running T-Link Apps indicate possible data damage if locks are cleared.

If no locks are currently active this message will look like this:

Figure 210: Display found Locks - None Found


T-Link Message Box
Display All Locks
Lock Running T-Link Apps File Found with 0 Applications registered as running now
OK

It is safer to Clear Locks in this situation, but if another user starts after you do this data loss can still occur!

- ☞ **It is best to leave locking enabled in remote paths**

More Information on Data Sharing

What happens when a something is locked

The main thing you will notice is that some T-Suite Applications won't run while others are running:

- ☞ **Only one T-Sched can be run in the T-Link Data Path (on any PC) at a time**
- ☞ **T-SiteExplorer requires that no other T-Suite Application is running at the same time**

T-SiteExplorer can move, rename, delete or import data, so all other T-Suite applications running on any PC on the network must be stopped first.

While data is being retrieved, and in certain other 'editing' situations, files are locked and you may see messages saying this.

You will always get the option to wait and retry, and possibly talk to whoever is locking the file (you will be told who this is, and what PC they are working on).

- ☞ **Always read the suggestion on the T-Suite Locked Item Dialog**

Read Technical Bulletin TB0016 – T-Suite Multi-User and File Locking

Technical Bulletin **TB0016 – T-Suite Multi-User and File Locking** has a full description of all the messages and options you will encounter.

If something is locked and I know it shouldn't be

If you get blocked by a file lock message and you know there is no-one else on the system, you will always have the option to **Ignore the Lock**, *after you have pressed Retry once*.

If this persists go to T-Options and Clear All Locks – see How do you turn off Locking? above.

Remember:

- ☞ **T-Sched will validly lock files without a person in attendance**

T-Suite creates a Shared System LOG File for all Network Users

When you enable Data Sharing, a System LOG File is created in the Shared Data Path.
All T-Suite Applications from all users log their activity to this LOG File.
This greatly simplifies understanding activity across a network.

Printing Options

T-Link will select the default windows printer, and locate Microsoft Word and Microsoft Excel automatically when it first starts. In T-Link's First Run (see Figure 6), you are asked to enter your name and company name.

☞ **Unless you need to change any of these things there is no need to use Printing Options.**

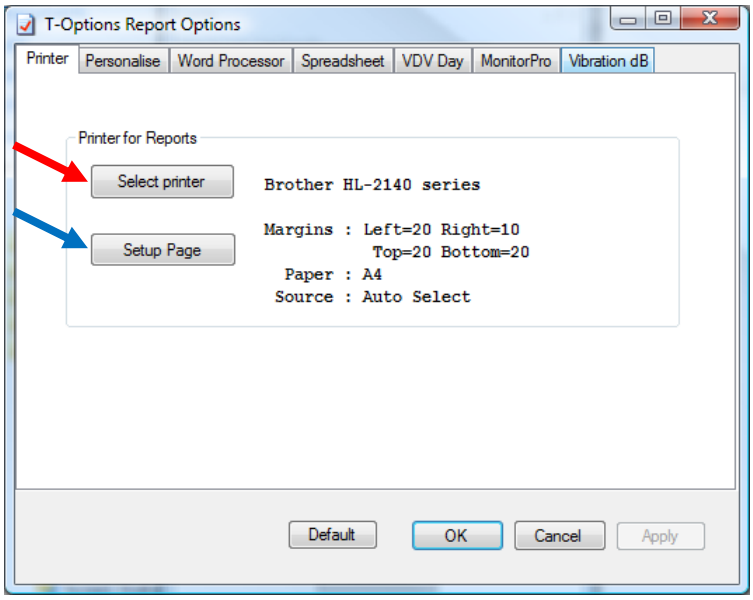
Press the ***Printing Options*** Button (shown in Figure 211) at the top right of the Report Main Window (Figure 129).

Figure 211: Printing Options Button

This will open the Printing Options Window, which has 6 sections accessed by clicking on the tabs at the top.

Printing Options – Printer

Figure 212: Printing Options - Printer

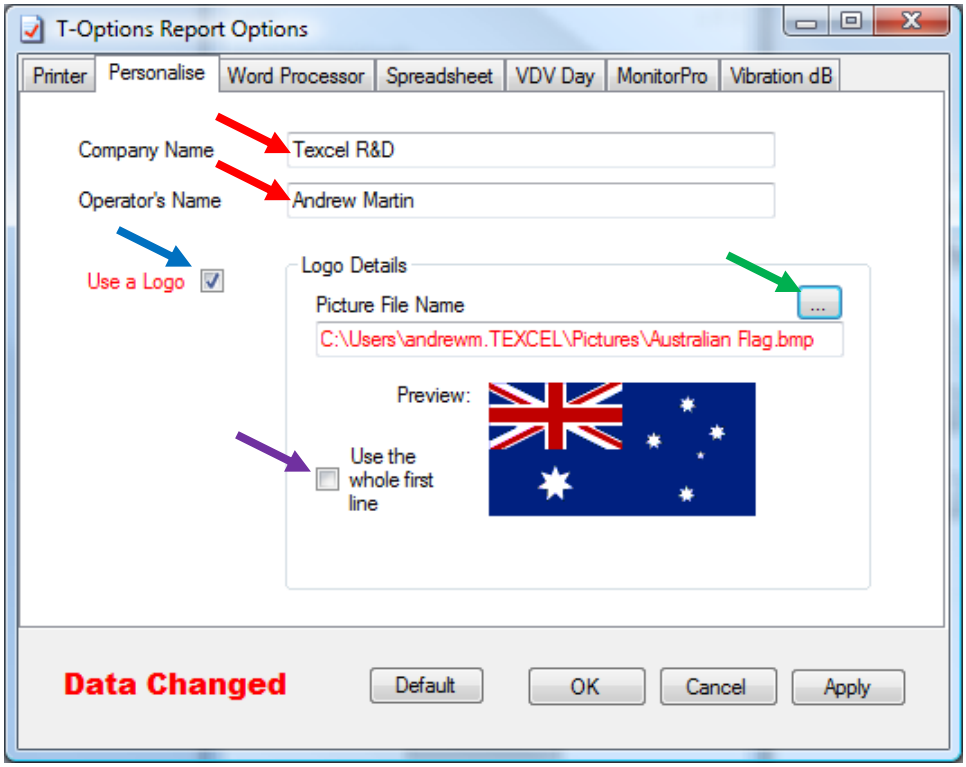


Press Select Printer (Red Arrow in Figure 212) to access your computer's list of installed printers – the window shown will depend on the version of Microsoft Windows you are running.

Press ***Setup Page*** (blue Arrow in Figure 212) to set up the margins and paper source for your printer. The window shown will be limited to those selections only and will depend both on the version of Microsoft Windows and the printer you have selected.

Printing Options – Personalise

Figure 213: Printing Options - Personalise



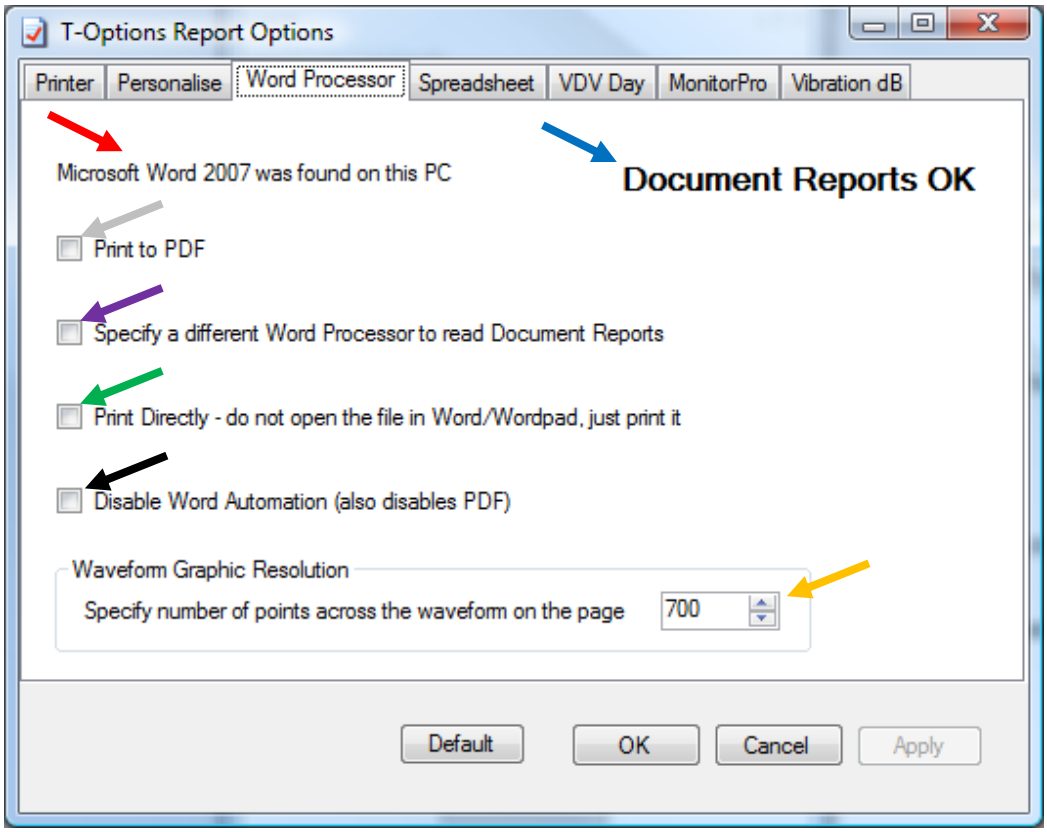
Your ***Company Name*** and ***Operator's Name*** (red arrows in Figure 131) appear on many reports – especially the Compliance Reports. Type the names you want at the red arrows.

Blast Reports allow you to use a picture file on your disk as a Logo on your printed reports. Tick the ***Use a Logo*** box (blue arrow in Figure 131) and the ***Logo Details*** box will show. Type in the ***Picture File Name*** or click the **…** button (green arrow) to select the file from your disk. If you have a wide logo, you can tick the ***Use the whole first line*** box (purple arrow).

Note: T-Link does not scale your bitmap image, which will normally be located in the top left corner of the blast report sheets. To include your company logo on blast reports, you should first adjust the bitmap image to the desired size, which is recommended not to exceed 50 mm (2 inches) wide. If the logo is larger than this, you may wish to tick the option ***Use the whole first line***, in which case your company logo will occupy the entire top line of the blast report sheets.

Printing Options – Word Processor

Figure 214: Printing Options - Word Processor



T-Link looks for an installation of Microsoft Word on your PC when it first runs. If it's found, it will be used; otherwise T-Link will use WordPad, which is (so far) always installed on a Windows PC. This window will tell you what T-Link is using at the red arrow in Figure 214.

Either way, if you get ***Document Reports OK*** (blue arrow), T-Link will print all its text based reports properly (Blast Reports, Waveform Plots, Activity Reports).

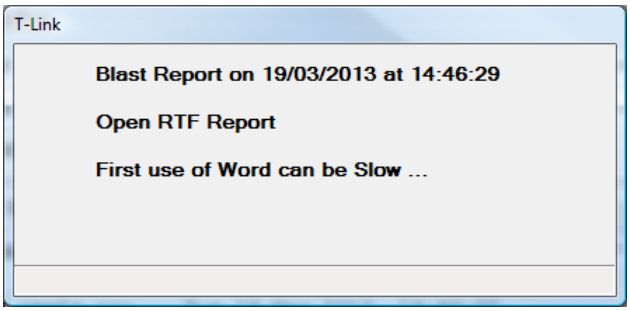
T-Link 2.2 introduces Word Automation, which allows printing to a PDF.

Print to PDF Using Word Automation
Tick to ***Print to PDF*** (grey arrow in Figure 214) to tell T-Link or T-Sched to print Word processor Reports to a PDF.

This process runs Microsoft Word to generate the same Word processor (rtf) reports, and then instructs Word to generate the pdf.

The first PDF report using Word Automation can be slow (up to 30 seconds depending on your PC) for your first report. The second report in each T-Link session will be very quick. The first report has a message:

Figure 215: First PDF Report can be slow



Clean up intermediate Word files when printing a PDF

When you select PDF Printing, you are given the option to clean up the intermediate Word files by clicking Clean Site Folder of intermediate files:

Figure 216: Clean up intermediate Word files when printing a PDF

Only Microsoft Word 2007 and above can Create PDFs

The option to ***Print to PDF*** will not be visible for older versions of Microsoft Word.

☞ **You can *Print to PDF* from a 2007 Microsoft Office system program only after you install an add-in.**

At the time of writing you could download this add-in from here:
http://www.microsoft.com/en-us/download/details.aspx?id=9943

If that fails Microsoft suggests 'For more information, search for "Enable support for other file formats, such as PDF and XPS" on Office Online.'

Disable Word Automation

As mentioned above the first report can be quite slow, especially on more limited PCs. T-Link Print Options allows the Word Automation process to be disabled.

☞ **You will still be able to use Word to create Word processor Reports**

Tick to ***Disable Word Automation*** (black arrow in Figure 214) to tell T-Link or T-Sched to stop using Word Automation.

☞ **You will not be able to *Print to PDF* if you Disable Word Automation**

Print Directly

If you tick the ***Print Directly*** box (green arrow in Figure 214), most of your text based reports will just print, rather than open in your selected Word processor and ask you to print them from there. The only exceptions to this are Blast Reports that have 'Edited Blast Details' which require you to fill in certain information before they print.

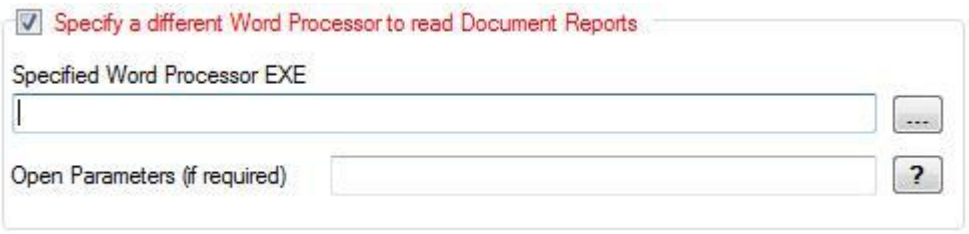
Waveform Graphic Resolution

If the wiggly lines in the waveforms in your printed Blast Reports or Waveform Plots are not clear enough, increase the 'Waveform Graphic Resolution' at the yellow arrow in Figure 214. Increasing this number will also increase the size of the report file on your disk.

Specify a Different Word Processor

Tick the box at the purple arrow in Figure 214 to open up the Specified Word Processor EXE details window as shown in Figure 217:

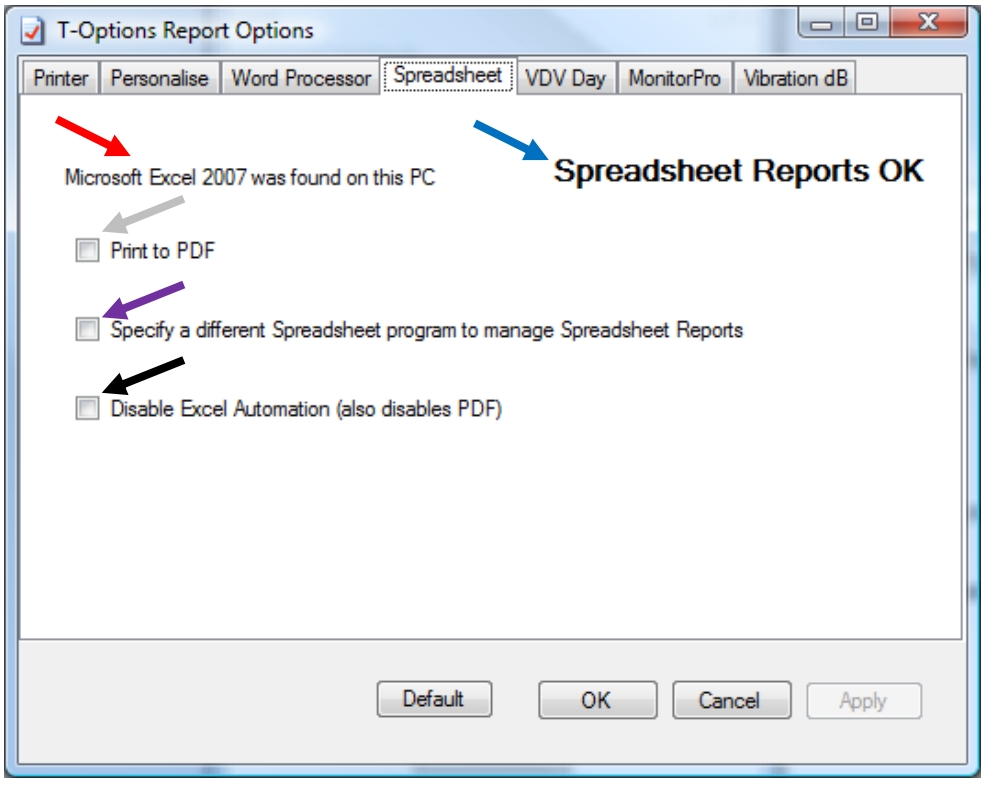
Figure 217: Specified Word processor EXE



This should only be done if you are sure of what you are doing – perhaps with the help of your System Administrator or under direction from Texcel. The ? button will give some hints for parameter specification.

Printing Options – Spreadsheet

Figure 218: Printing Options – Spreadsheet



T-Link looks for an installation of Microsoft Excel on your PC when it first runs. If it's found, it will be used; otherwise T-Link will export some of the tab-delimited text files to notepad, but many Spreadsheet reports will not function properly. This window will tell you what T-Link is using at the red arrow in Figure 218.

Either way, if you get ***Spreadsheet Reports OK*** (blue arrow), T-Link will print all its spreadsheet reports properly (Waveform Export, Continuous and Spreadsheet Reports).

If you have problems here you can ***Specify a different Spread Sheet program*** by ticking the box at the purple arrow in Figure 218. The behaviour and comments for use here are the same as for Specify a Different Word Processor above.

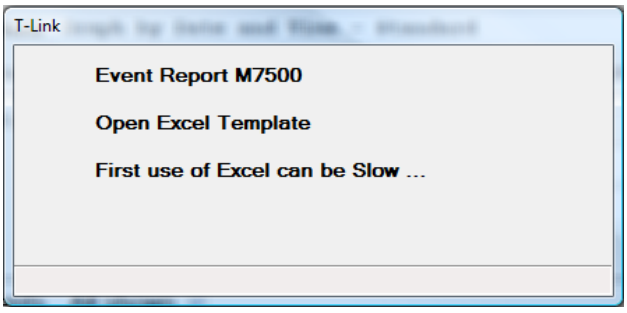
T-Link 2.2 introduces Excel Automation, which allows printing to a PDF.

Print to PDF Using Excel Automation
Tick to ***Print to PDF*** (grey arrow in Figure 218) to tell T-Link or T-Sched to print Spreadsheet Reports to a PDF.

This process runs Microsoft Excel to generate the same Spreadsheet (xls) reports, and then instructs Excel to generate the pdf.

The first PDF report using Excel Automation can be slow (up to 30 seconds depending on your PC) for your first report. The second report in each T-Link session will be very quick. The first report has a message:

Figure 219: First Excel PDF Report can be slow



Clean up intermediate Excel files when printing a PDF
When you select PDF Printing, you are given the option to clean up the intermediate Excel (.txt and .xls) files by clicking Clean Site Folder of intermediate files:

Figure 220: Clean up intermediate Excel files when printing a PDF

Only Microsoft Word 2007 and above can Create PDFs
The option to ***Print to PDF*** will not be visible for older versions of Microsoft Word.

☞ **You can *Print to PDF* from a 2007 Microsoft Office system program only after you install an add-in.**

At the time of writing you could download this add-in from here:
http://www.microsoft.com/en-us/download/details.aspx?id=9943

If that fails Microsoft suggests 'For more information, search for "Enable support for other file formats, such as PDF and XPS" on Office Online.'

Disable Excel Automation
As mentioned above the first report can be quite slow, especially on more limited PCs. T-Link Print Options allows the Excel Automation process to be disabled.

☞ **You will still be able to Report Spreadsheet Reports to Excel**

Tick to ***Disable Excel Automation*** (black arrow in Figure 218) to tell T-Link or T-Sched to stop using Excel Automation.

☞ **You will not be able to *Print to PDF* if you Disable Excel Automation**

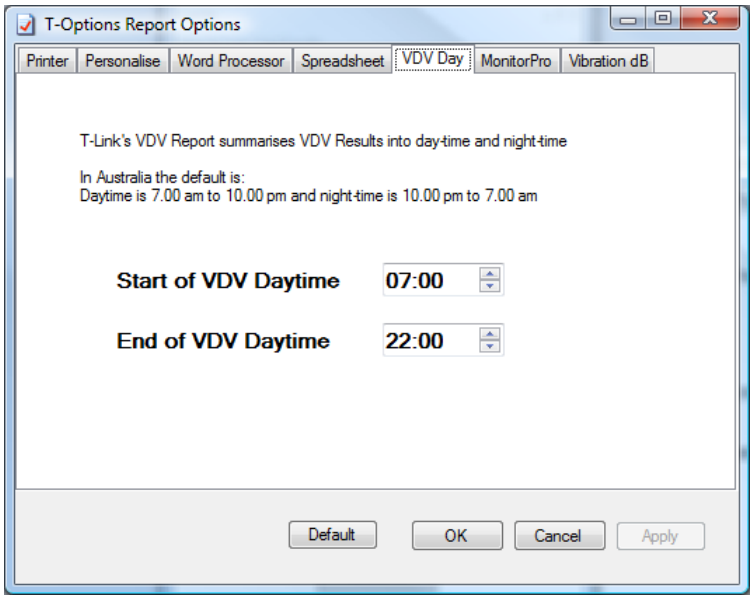
Printing Options – VDV Day

The VDV Report breaks the monitored period into Day Time and Night Time, as required for such reports.

See Continuous Report – VDV above.

NSW EPA Guidelines define Day Time as 7:00 am to 10:00 pm (= 22:00). In T-Link this is the default, but can be adjusted (using 24-hour time) here:

Figure 221: Printing Options VDV Day



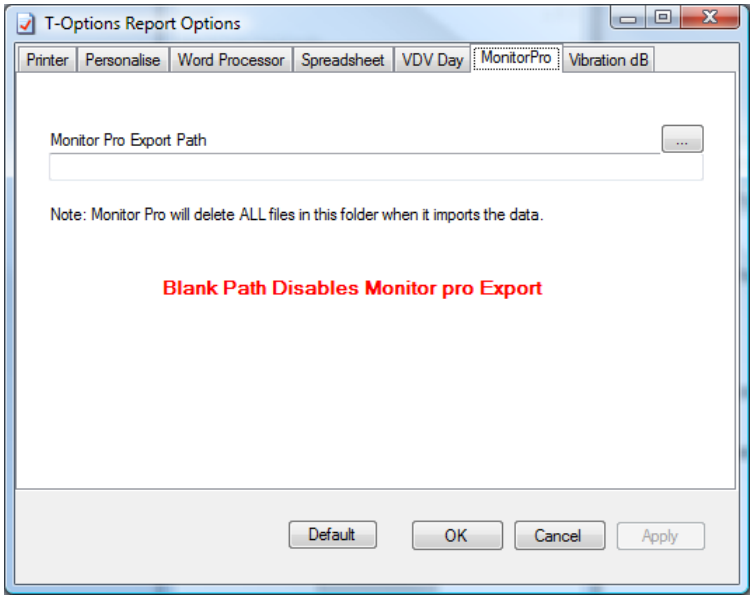
Printing Options – MonitorPro

MonitorPro is a proprietary database system that will import spreadsheet data from Texcel Monitors.

MonitorPro is created and sold by EHS Data. EHS Data Limited is a UK based company, with clients using our systems worldwide who provide software systems to manage Environmental, Health and Safety Data.

Information on MonitorPro and EHS Data can be found here:
http://www.ehsdata.com/

Figure 222: Printing Options - MonitorPro



On this window you specify a folder. T-Sched (usually) is set to report specially formatted spreadsheet data from retrieved events.

MonitorPro is then set to monitor the same folder, and when it sees a new file, it imports the data from the file and deletes it. The data becomes immediately available through the MonitorPro's extensive user interface and analysis packages.

While this format is optimised for MonitorPro, it is simply a tab-delimited text file which could be imported into Excel or many other data management systems.

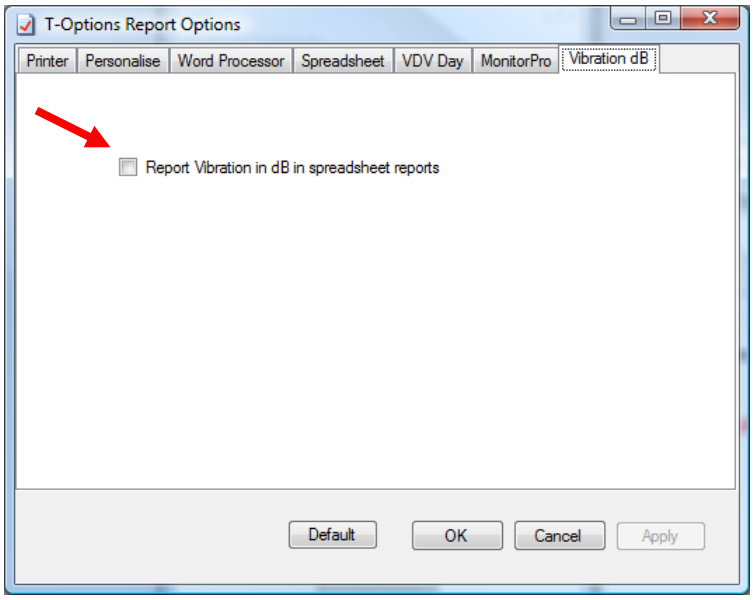
Texcel intends this process to be a standard interface to 3rd party data management systems

- ☞ **Contact Texcel if you want to import data this way to a new system**

Printing Options – Vibration dB

If you want to report velocity in dB in your spreadsheet reports, click on the ***Vibration dB*** tab:

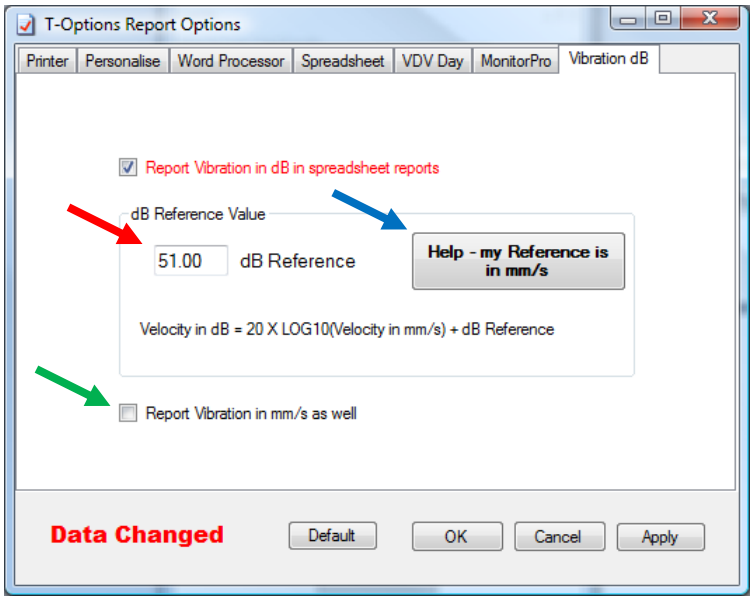
Figure 223: Printing Options - Vibration dB



To enable reporting vibration in dB:

1. Tick the box at the red arrow in Figure 223 above
2. Set your dB reference level in the box at the red arrow in Figure 224 below:

Figure 224: Printing Options - Vibration in dB Details



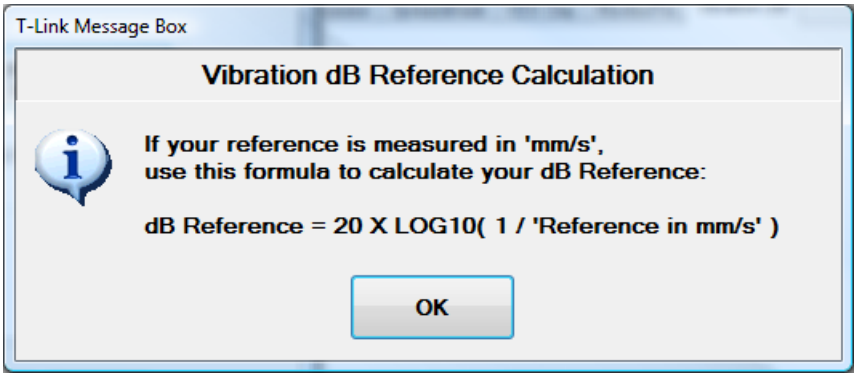
☞ **You must be measuring your vibration with a Velocity Sensor**

If you are recording vibration with an Accelerometer these options will have no effect

Calculating your mm/s or i/s Reference Level in dB

This formula is explained if you click the Help button at the green arrow in Figure 224 above:

Figure 225: Calculating your dB Vibration Reference


T-Link Message Box
Vibration dB Reference Calculation
If your reference is measured in 'mm/s',
use this formula to calculate your dB Reference:
dB Reference = 20 X LOG10(1 / 'Reference in mm/s')
OK

I.e. if you are working in metric units, and know your *Reference* level in mm/s – the formula is:

$$dB\ Referenc = 20 \times LOG_{10}\left(\frac{1}{Reference}\right)$$

If you are working in Imperial units (See Imperial Units) just use the *Reference* in i/s in the above formula.

Type the result into the box at the Red Arrow in Figure 224 above.

How is the Vibration dB Level Calculated

Once you have set up your dB reference, the value shown in your *Spreadsheet Reports* and in the *Graph by Date and Time Charts* will be calculated like this:

$$dBvel = 20 \times LOG_{10}\left(Measured\ velocity\ in \frac{mm}{s}\ (or \frac{i}{s})\right) + dB\ Reference$$

Vibration dB uses the Unit *dBvel*

All Velocity Results in dB will show the unit ***dBvel*** in the Texcel system, whether you use metric or imperial units otherwise.

You can display and graph the results in both ***mm/s*** (or ***i/s***) as well as ***dBvel*** if you tick the box at the Green Arrow in Figure 224 above.

Imperial Units

T-Link operates, by default, in Metric units, and all Texcel sensor calibrations are performed in metric units. However, T-Link monitors can be programmed to perform measurements in any particular unit with any sensitivity, and T-Link will respect the units and sensitivities in the monitor.

T-Link allows you to configure a Texcel monitor, with Texcel calibrated sensors, in Imperial units. Once configured that way, all data retrieved and reports generated from that data will remain in Imperial units.

☞ **PCs with US Regional Settings will start automatically in Imperial Units**

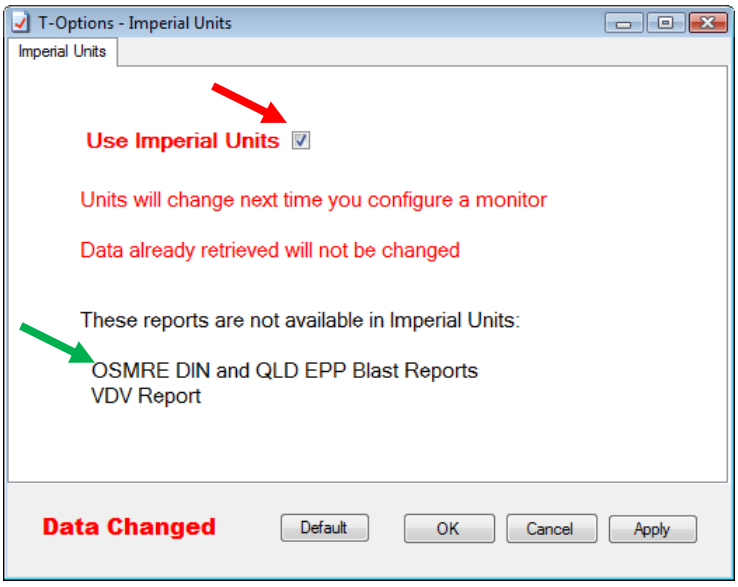
Either way, you can set the reported units here.

Press the ***Imperial Units*** Button (Figure 226) on T-Options Main Window (Figure 189) to access the Path Options.

Figure 226: Imperial Units Button

The Imperial Units window is very simple. Tick the ***Use Imperial Units*** (red arrow Figure 227) box to enable imperial units, and clear it to disable it.

Figure 227: Imperial Units Options



Existing Sensors will be presented on the Custom Settings Sensor selection window in whichever unit is specified here.

☞ **Some reports are unavailable in Imperial Units (green arrow Figure 227).**

What happens when I change To or From Imperial Units?

Data already retrieved, or still in the monitor will remain in whatever units the monitor was last configured to!

- ☞ **Data in a monitor will only be imperial after you next configure it.**

Data retrieved to the disk will not change from when it was first retrieved.

- ☞ **You cannot change the units of already captured data**

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